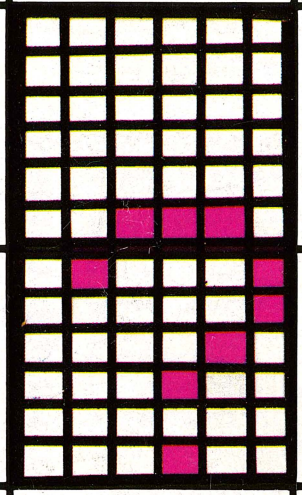
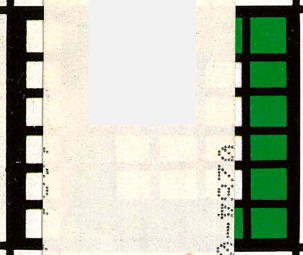
EPSON CONNECTION

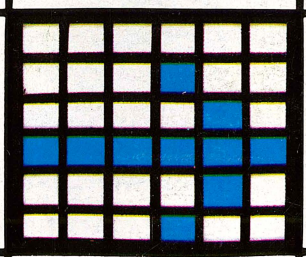
$ 3.50

Devoted to Epson Desktop and Portable Computer Users

MARCH 1986







MATRIX

Create Custom Fonts for Valdocs 2

Exploring MS-DOS 2.11

True BASIC

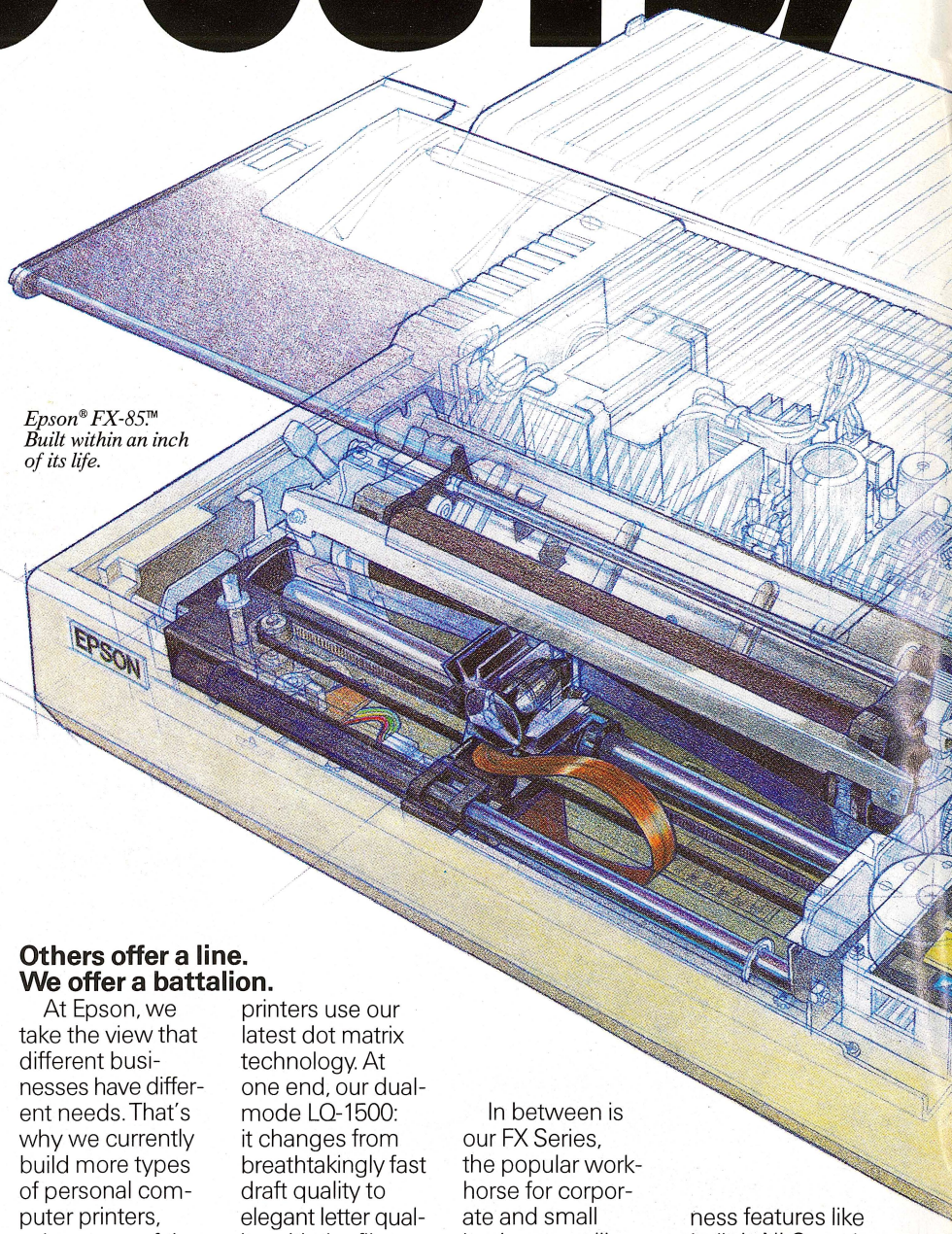
RSI BASIC 2+

PeachTree to dBase II

Video Display Controller for your Geneva

Automating a Solo Law Practice

NO GUTS.



Epson® FX-85.™ Built within an inch of its life.

Most people credit the personal computer for the stunning transformation in business creativity.

But hold on.

It's one thing to run down the hall waving a *computer* with your latest brainstorm. Quite another to run down the hall waving a *piece of paper.*

Which is why, in 1964, Epson engineers invented the first dot-matrix printer to use with the computerized equipment they had designed for the Olympic Games. With it, at last, there was a complete computer *system* that could take man's most creative ideas, translate them into words and images, and churn them out the other end...on paper... in all their glory.

Small wonder that we prepare every Epson printer to be the guts of that system.

What being first has to do with being best.

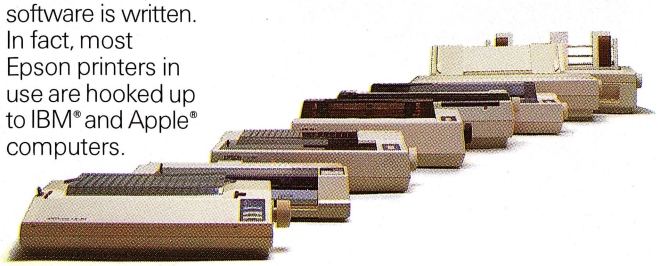
For one thing, it means we've had the most time to refine a fairly sophisticated piece of equipment.

For another, Epson print[illegible]s [illegible]e the [illegible]ard all major computer software is written. In fact, most Epson printers in use are hooked up to IBM® and Apple® computers.

Others offer a line. We offer a battalion.

At Epson, we take the view that different businesses have different needs. That's why we currently build more types of personal computer printers, using more of the popular technologies, than IBM, Apple and one or two others... combined.

Eight of those printers use our latest dot matrix technology. At one end, our dual-mode LQ-1500: it changes from breathtakingly fast draft quality to elegant letter quality with the flip of a switch. At the other, our Homewriter™ 10: Epson reliability, and a very attractive price.



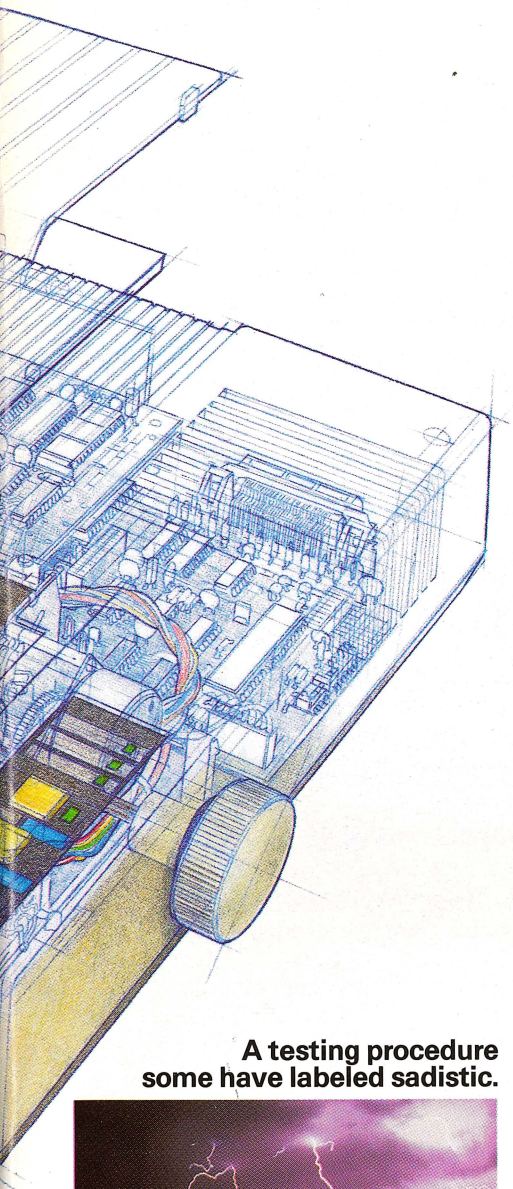
In between is our FX Series, the popular workhorse for corporate and small businesses alike, newly upgraded to offer a built-in Near Letter Quality mode, a standard 8K buffer, and even greater ease-of-use and compatibility with today's most popular PC's.

Also, the LX Series. Designed specifically for home, and home business usage, but with big business features like built-in NLQ mode, and SelecType pushbutton type selection.

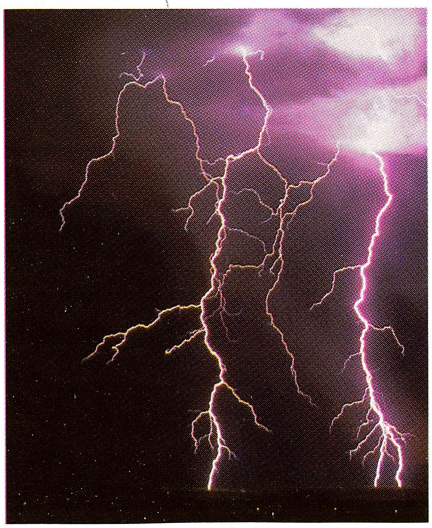
Plus specialized machines like our ink-jets, portables, color plotter, and color printer.

Together, they represent the most comprehensive choice of features and specifications available in the personal computer printer category.

NO GLORY.



A testing procedure some have labeled sadistic.



Every Epson printer goes through a series of tests, personally designed by our Czar of Quality Control, to make life in the real world seem tame.

For instance, we know our printers don't keep banker's hours. They turn it out all day, and often all night, without a break. So, in one test, we let a printer print, 24 hours a day, non-stop, day in, day out, to see if it will fail.

When we're designing a printer, we conduct what is affectionately known as the "run and stun" test, to see if it can withstand the rough voltage equivalent of a lightning bolt, in mid-operation, without a loss of character. If it can, it will certainly withstand minor annoyances like power surge and the static charge you carry from walking around on new carpeting.

The result? A printer that can take it as well as dish it out.

The Czar of Quality Control.

FX-85/185 FEATURES

Print Method:
9 pin, impact

Print Head Speed:
160 CPS draft mode
32 CPS NLQ mode

Character Sets:
96 ASCII set
italic set
11 internat'l sets
3 NLQ sets
11x9 user def. sets

Paper Feed:
FX-85 friction/pin
FX-185 frctn/tractor

Interfaces:
(standard)
Centronics® parallel
(optional)
RS-232-C serial
IEEE-488

Physical Dimensions:
FX-85 4" x 7.5" x 13.5"
FX-185 5" x 23.5" x 14"

Hardware Features:
8K Buffer
DIP sw. selectable
IBM 5152 and
Epson Std. Code.

At last, a warranty worth the paper it's printed on.

Most printers carry a ninety day warranty. Every Epson printer comes with a *full year* warranty. Not because you're ever likely to need it. But because it says something about how much faith we have in the way we build our machines.

No matter how good a warranty someone offers you, though, it's only as strong as the reputation of the people behind it. When you buy a printer from Epson, you're staking your business on how well we know our business. And we think, after twenty years, we have the guts of it figured out.

The glory is all yours.

Epson is a registered trademark of Epson Corporation. FX-85 and Homewriter are trademarks of Epson America, Inc. Centronics is a registered trademark of Data Computer Corporation. IBM is a registered trademark of International Business Machines Corporation. Apple is a registered trademark of Apple Computer, Inc.

For information on the complete line of Epson printers, call (800) 421-5426, or (213) 539-9140 in California.

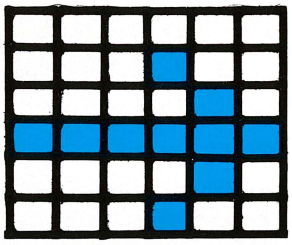
EPSON

PRINT

EPSONCONNECTION

MARCH 1986 VOLUME 4 NO. 3

FEATURES



AUTOMATING A SOLO LAW PRACTICE *by J. Britten Miller, Jr.* **8**
A cottage attorney shares tips about his experiences with Valdocs, Kamas, and the Omni Reader.

USING MATRIX TO CUSTOMIZE VALDOCS *by William P. Love* **12**
A mathematics professor explains how to create unique symbols for use in Valdocs 2.

EXPLORING MS-DOS 2.11 PART TWO *by Allen Howell* **18**
Learn about many of the commands built into the MS-DOS operating system such as: REN, SORT, PATH, and MORE...

MODEM DIP SWITCHES *by E.C. Staff* **24**
Tips and discussion about the most common modem DIP switch settings for modems used with the QX computers.

TRUE BASIC *by David Crotty* **25**
A good programming package for MS-DOS with a full screen editor, complete manual, and many structural features.

RSI BASIC 2+ *by Dan Oja* **30**
An easy to use and sophisticated graphics programming language for QX computers.

PEACHTREE TO dBASE II FILE CONVERSION *by Allen Howell* **34**
Converting PeachTree Mailing List files to dBASE II format.

HOUSEKEEPER *by David P. Christovich* **39**
A "potpourri" of programs from A.P. Systems Limited for the HX-20 portable.

UD-80 VIDEO DISPLAY CONTROLLER *by Doug Kitson and Bob Hermann* **42**
A device to connect the Geneva PX-8 portable computer to a monitor.

ABOUT THE COVER: **Concept & Graphics** by McCarthy & Wills, EpsonConnection, Ltd.

DEPARTMENTS

AD INDEX	44	EDITORIAL	3	SHOPPERS GUIDE	33
CARTOONS	38, 40	LETTERS to the EDITOR	5	TIPS ON STAT	38
DISK of the MONTH	16	RX for PX	40	USERS COLUMN	17

Correction: Let me apologize for a real **ERROR 80.** Last month I announced the release of the source code of CP/M-80 B. Epson America did release the CP/M-80 B XBIOS System Essentials Manual which contains technical information on the extended system calls, but it does not contain the Source Code for CP/M B. We hope that Epson America will release this information to the public in the near future.

Published By
EpsonConnection Ltd.
P.O. Box 14249
Detroit, MI 48214

Editorial Office:
P.O.Box 14249
Detroit, MI 48214

Editor
Carolyn J. McCarthy

Ass't to the Editor
Chris Wills

Special Projects Editor
Allen Howell

Portable Computing Editor
Robert A. Hermann

Circulation Manager
William V.J. Andrade

Production
Jo Ann Sind

Editorial Consultants
Ralph Ruh
Franc LaClair
David Robinson
David Crotty
Maryann Whitman

Advertising Office:
P.O.Box 184
Novi, MI 48050

Advertising Manager
Maureen Mertz

Advertising Assistant
Deborah Ratliff

The EpsonConnection was published monthly by The EpsonConnection Ltd., P.O. Box 14249, Detroit, MI 48214 with Second Class postage rate paid at Detroit, MI, USPS # 733-210. Please allow 2-4 weeks for delivery. The EpsonConnection is circulated internationally to Epson users, owners, dealers, and distributors. Send all inquiries regarding subscriptions or advertising to: Camden Communications, Inc., P.O.B 250 - Highland Mill, Camden, ME 04843. **The EpsonConnection is an entirely independent entity from Epson America and it's Distributors.** Epson, QX-10, Geneva PX-8, QX-16, HX-20 are registered trademarks of Epson Corporation and, TPM, Valdocs, RSI Basic, ValDraw, ValPaint are registered trademarks of Rising Star Industries, Inc. CP/M is a registered trademark of Digital Research, Inc. QXPC-2 is a registered trademark of Titan Technologies Inc., MS-DOS is a trademark of Microsoft Corporation.
Copyright 1986 EpsonConnection Ltd. All rights reserved. No part of this publication may be reprinted in any form without written permission from the publisher. Unsolicited material is gratefully accepted, and we take no responsiblity for its return.
POSTMASTER: Send address changes to: Camden Communications, Inc., P.O.B. 250 - Highland Mill, Camden, Maine 04843. Allow 6-8 weeks for address changes to become effective.

Editorial

This is a difficult editorial to write. This is the last issue of the EpsonConnection.

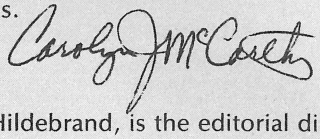
It became evident during the past several months, that the Epson computing world was not large enough to support two publications, and that a larger corporation could produce one monthly more economically and efficiently than our small company. So economics together with a required move to new offices created this difficult situation. After much deliberation, we met with Carl Cramer, Vice President of Camden Communications, Inc. Through our discussions we decided that a merger of the two publications into a new one would be the best way to serve the Epson computer community. The good news is that your subscriptions will be fulfilled by the new publisher.

It was an emotionally difficult decision to make as our entire staff, my partner Maureen and myself have dedicated our efforts over the past three years, to do whatever we could to help other Epson computer users. Another difficult part of the decision was a personal one, that of enjoying a very real communication with so many of you by phone, letter, in person, and via BBS. We have given a lot of ourselves to you through the various media efforts these past years, and I hope our optimism and stress on the importance of user groups and user-to-user help will continue throughout the Epson owner sphere. We are a special group of computer owners, and facing the challenges ahead is just another menu to deal with.

So what is ahead? Camden Communications, Inc., has received all of your subscription information from us, and will be honoring your unfulfilled issues with a new publication which will grow out of the combination of The EpsonConnection and Epson World. They are planning a new monthly, and we are working together to create a smooth transfer. The EpConnSOCIS BBS will be continued as is, and the EpsOnLine SIG on CompuServe will be managed by Camden Communications, Inc. The Disk of the Month will be transferred with the magazine over the coming months, current orders will be filled from our office in Detroit.

This is not an end to my communication with you, as my commitment as a fellow QX and Equity owner will continue. You may expect a continued input, through the new publication, to some of your newsletters, and via Chuck Champlin's User Group diskletter from Epson America.

To our staff, I extend our thanks for all your efforts, caring and hours of work. To the contributors from all over, please keep up your writing and efforts to help other users. To the Epson America and Rising Star employees that have assisted us over the years a big smile and thanks for all your caring and help. To the advertisers, please keep on producing products, your support is essential and appreciated. To our subscribers from all over the world, it has been a real pleasure to have been in touch with you. Last, thanks to each of you who offered their comments, suggestions, help, and criticisms.



J. D. Hildebrand, is the editorial director at Camden Communications, Inc., and has these welcoming remarks to extend to you.

"For more than a year it's been our pleasure to serve the needs of the entire Epson user community, from the HX-20 hacker to the at-home QX-10 enthusiast, from the traveling Geneva user to the office manager who has just purchased an Equity system.

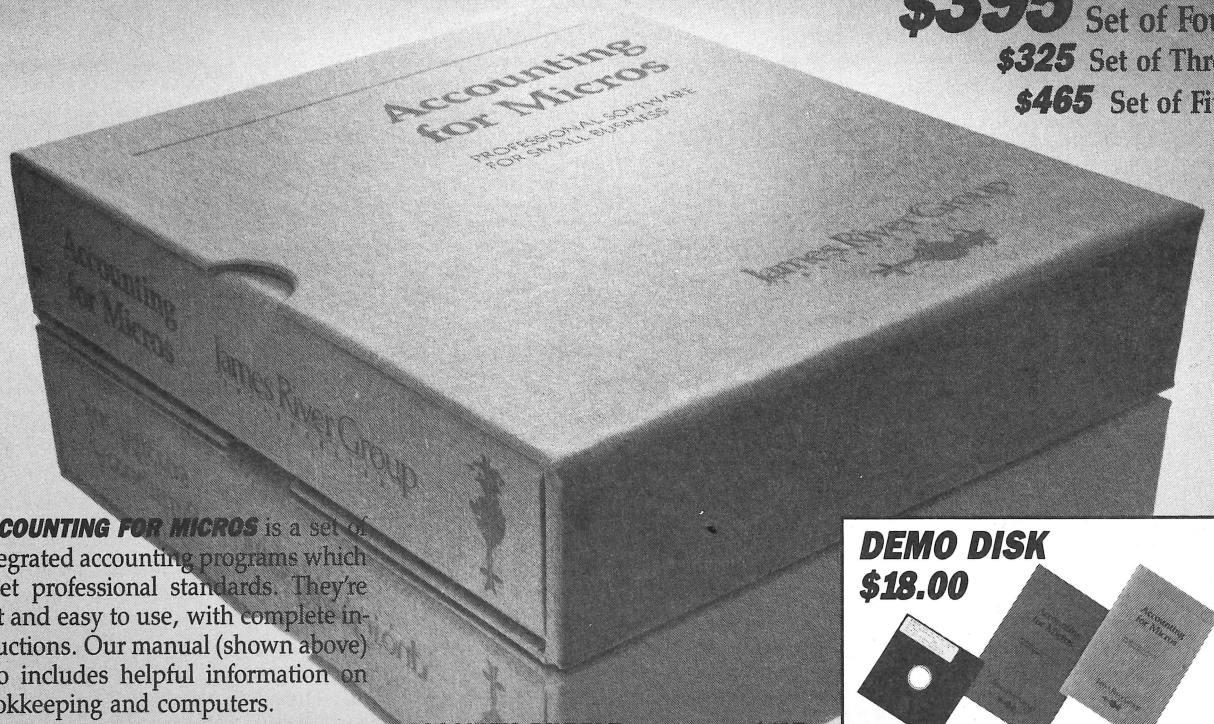
"Many of you have never seen our publications. Welcome. We hereby pledge to maintain the same degree of journalistic excellence and technical expertise in our publications as you've come to enjoy in the EpsonConnection. We've already contacted many of EpsonConnection's regular contributors, and we're all excited about a new beginning.

"Thousands of you are already familiar with our commitment to the Epson market through Epson World and Geneva News. To these users we say -- you ain't seen nothing yet.

"You bought your Epson computer in full expectation of getting many years of productive, enjoyable use out of it. In the months to come we'll continue to help fulfill that expectation. See you soon."

ACCOUNTING FOR MICROS

$395 Set of Four
$325 Set of Three
$465 Set of Five



ACCOUNTING FOR MICROS is a set of integrated accounting programs which meet professional standards. They're fast and easy to use, with complete instructions. Our manual (shown above) also includes helpful information on bookkeeping and computers.

GENERAL LEDGER $125
Allows up to 1,000 accounts & 1,000 transactions/month. Retains mo/end balances for Last year, This Year and Forecast. Includes Cash Disbursements, Cash Receipts and General Journals. Reports include Balance Sheet, Income Statement, Annual Summaries and Journal Reports.

ACCOUNTS RECEIVABLE $125
Allows up to 2,500 customers and 1,000 invoices per month. Invoicing can access Inventory Module. Keeps customer names and addresses. Invoice prints on plain paper or any pre-printed form. Statements can be printed at any time.

INVENTORY $125
Allows up to 4,000 parts. Keeps 3 month history of unit sales as well as year to date. With AR, can be used as point of sale system (prints invoices, handles cash). Reports include Inventory Value and Stock Report, Internal and Customer Price List.

ACCOUNTS PAYABLE $125
Allows up to 500 vendors and 600 invoices/mo. Records invoices and handwritten checks. Prints computer checks on any pre-printed form. Keeps vendor names and addresses.

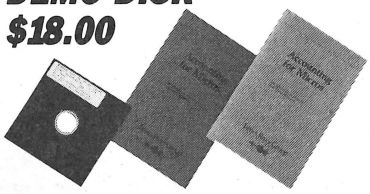
PAYROLL $125
Will handle up to 100 employees with six deductions per employee. Deductions may be determined as fixed dollar amounts or percentages, or referred to a table for automatic look-up. Tax tables are easily entered, or purchased separately.

SET OF FIVE $465
SET OF FOUR $395
SET OF THREE $325

RUN ON MOST CPM AND MSDOS

Apple CPM	*IBM PC,XT,PC jr,AT*	*Sanyo (all)*
Columbia	*Kaypro (all)*	*Tandy (all)*
Compaq	*Morrow (all)*	*TeleVideo*
Corona	*Osborne (all)*	*Zenith 100 & 150*
Eagle (all)	*Panasonic*	*8" CPM*
Epson QX-10	*Radio Shack CPM*	*Other compatibles*

DEMO DISK
$18.00



Try all 5 programs above (GL, AR, AP, IN, PR). Order our DEMO DISK for $18.00 (includes shipping). Condensed versions of the programs give you the "feel" of data entry and access. Includes sample reports and instructions. Specify machine.

TRASHMAN (NEW) $145
The "Catch-All" program. Files any type of information for quick access. Name or subject oriented with 15 lines of notes per name. Use TMAN as a mailing list, filing system, notebook, etc. Can be used alone or with data from our other programs.
Try ***TRASHMAN (only) DEMO $16***

HOW TO ORDER: Please specify machine and disk format. You can pay by check, by VISA or MasterCard (we need your expiration date and card number), or by UPS COD (add $2.50 COD charge). Our price includes shipping. Minnesota residents, add 6% sales tax). We ship most orders the same day.
or ***ORDER BY PHONE: 612-339-2521***

James River Group
INCORPORATED

(612) 339-2521

125 North First Street
Minneapolis, MN 55401

Letters to the Editor

User HELP Needed

Dear Ms. McCarthy,

I bought Chang Labs "GraphPlan" as modified by Epson for the QX-10, and have been printing the graphs on my RX-80 F/T. They are fine, except not quite as pretty as I would like, so I bought an Epson HI-80 4-pen plotter. Epson's ads for the HI-80 say it is supported by virtually all software," so I naively thought that Epson's own graphics would certainly run on it. Not so. After I make a graph with GraphPlan and set all the required parameters to run the graph on a plotter, I press control P to run, and the plotter just buzzes and the error light comes on.

Someone suggested I buy "KeyChart" while someone else has suggested I write to Epson and/or Chang Labs to see if GraphPlan has been or can be updated to run on the HI-80. I'm not sure of either of these answers. I do know that I understood Valdocs 2 was to support color plotters, but now that I have been using Valdocs 2, I find that I was wrong there too.

What, please, is an inexpensive way out of this dilemma?

Very truly yours
Daniel S. Nutter, P.E.
105 E. Alcante
Santa Fe, NM

Rising Star & Valdocs Are Real Assets

Dear Ms. McCarthy,

As one who has owned a QX-10 since June 1983, when they first appeared on the market, and as an electrical engineer with a fair amount of computer experience, I feel obliged to comment.

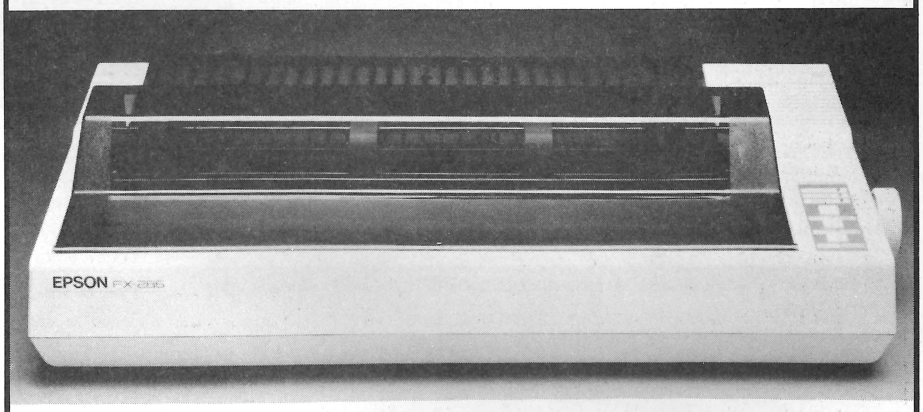
The initial release of VALDOCS (version 1.14) which was supplied with the QX-10 was a usable, although somewhat buggy program. The gradual series of upgrades provided by Epson slowly improved the product. VALDOCS 2, while still somewhat flawed, I feel was a major step forward. It should be remembered that RSI was an Epson contractor for all of this time.

Some have been outraged at the price of VALDOCS+, however I feel that Rising Star has provided a reasonable pricing policy. As one who had previously purchased VALDraw and VALPaint, I cannot complain about the additional cost of $49.00 for the VALDOCS Package, and I do not consider the full price out-of-line. This is especially true in light of the high quality of the product, which is superior to most of the highly touted programs available. The editor is a joy to use, the graphics are superb, and the spreadsheet, communications and other features quite competitive. I regularly use an IBM PC XT at the office, have previously written my bachelor's thesis using WordStar on a Heath CP/M machine, and I strongly feel that the QX-10/VALDOCS+ combination makes the most usable computer system on the market today, and nearly the most powerful, (although admittedly not the fastest). I know of NO single product for the IBM or the Macintosh which provide the same computing power!

I think the best evidence of RSI's commitment to their customer audience is the "VALDOCS+ Environment Manual" which comes with the package. It provides the user with an unprecedented degree of information about the workings of the VALDOCS software, explaining what the user should/can do, why he should do certain things, and what is happening internally when he does. It is superior to almost every software manual I have ever used. Compare this with Epson's rather mediocre VALDOCS2 manual, and you will see why I feel that Rising Star is a definite asset to the QX-10 community.

Sincerely
David P. Lemire
Laurel, MD

PRINTER FX-286



Epson America introduced another new printer, the FX-286. This is a 136-column, 9-pin dot matrix printer which replaces the FX-185. The primary enhancements over the FX-185 are the speed, (the FX-286 prints at 200 cps at draft speed and 40 cps in NLQ mode), and it emulates the IBM Proprinter. It comes standard with parallel interface, friction and tractor feed, and an 8K buffer (expandable to 32K). The printer uses the Epson Standard Code for Printers (ESC/P) as well as emulates the IBM 4201 Proprinter (selectable via dip-switch). The printer can mix graphics with text, and outputs text in six character pitches, ranging from five to 20 characters per inch, and over 160 various typestyle combinations. The convenient SelecType control panel is standard. The suggested retail price is $749. Other options include a serial interface board, IEEE interface, and cut-sheet paper feeder. The usual one year limited warranty is included.

BASIC BUSINESS

$89.95
MS-DOS, PC-DOS or CP/M

"The Best Low Cost Accounting Software"

The trend is established. Quality software must sell for less. Smart buyers are no longer willing to pay hundreds or thousands of dollars for accounting software. We agree! Basic Business was designed to sell for $3500. It has been improved and repackaged, and is yours for the sound investment of $89.95.

Consider the flexibility of Basic Business. You can generate over 300 reports or use the optional dBASE file formats for ultimate information gathering and reporting. Transfer information to a database or spreadsheet program for total custom reporting ability. Source code is also available for those companies that have specialized accounting needs.

Compare the 7 modules feature to feature against all low and high cost packages and we're sure you will agree. Basic Business is the accounting system for you.

Minimum Hardware Requirements: 80 X 24 CRT, 2-360K floppies, 132 column printer, 64K CP/M 2.x, 128K MS-DOS or PC-DOS 2.0, PC/XT/AT or compatible.

PARTIAL LIST OF FEATURES

General Information
- All modules are menu driven / password protected
- Unlimited data entry in all modules
- Prints hundreds of detailed management reports
- Superior documentation for ease of use
- Easily adapts to virtually any business
- Stock or preprinted forms available
- Supports user defined notes / comments on all forms
- All modules completely integrated

General Ledger
- Unlimmited user defined Chart of Accounts
- Prints all standard financial reports
- Up to 99 user defined departments

Accounts Receivable & Billing
- Open item or balance forward
- Verifies customer credit limit at invoice entry
- Supports service or inventory billing
- Prepares customer statements with dunning notes
- Maintains full cash flow analysis
- Prepares mailing labels and customer lists

Accounts Payable
- Cash disbursement management for all vendors
- Supports hand written checks
- Automatically posts recurring invoices monthly
- User defined aging periods
- Prints vendor mailing labels and lists

Payroll & Job Costing
- Supports labor related job costing
- Maintains federal, state and local tax tables
- Handles vacation and sick leave time
- Prints W-2 forms and 941 information

Inventory
- Up to 12 digit alphanumeric part numbering
- Supports standard / average / suggested resale costing methods
- Intergated with Sales and Purchase Order systems

Purchase Order
- Maintains PO and Inventory files
- Prints confirming POs
- Prints price variance report by part number
- Maintains vendor purchase history

Order Entry & Sales Analysis
- Supports ordering and shipment of stock and non-stock items
- Handles partial shipments / cancellations / changes of any SO
- Automatic credit checking during SO entry / invoicing / billing
- Provides extensive sales analysis reporting
- Maintains MTD billing and booking totals
- Line item/total invoice discounts during SO entry and / or invoicing

Point of Purchase (optional)
- Entry of invoices posts to all pertinent modules
- Invoices stock / non-stock items
- Line item discount and tax application
- Verfies customer credit limits
- Supports cash / check/credit card / payment on account and returns
- Controls electronic cash drawer

Complete 7 module accounting system

Basic Business $89.95
Point-of-Purchase module $99.95
dBASE II/III file formats $29.95

UTILITIES

Autodiff: File difference detector: This program finds insertions, deletions, and changes between any two files. Autodiff can mark in the file, display, or print the differences and more!
Autodiff $29.95

CP/M DateStamper: Automatically time and date stamp your files (just like MS-DOS) using the built in "Real Time Clock" in your QX-10. Now, when you run the directory program, you will know when you created, accessed, or last modified any file. Other features allow copying, erasing, or renaming files based on time and date.
DateStamper $49.00

Pack and Crypt: Two-program set. Pack compresses and expands files on disk to save space. Crypt encodes files to provide security for sensitive data.
Pack and Crypt (both programs) $24.95

SmartKey II: New Release! Same great time saver as the original, and allows compiling of definitions you set up with your word processor! Makes every software program you use easier. Can reduce keystrokes by more than 50% by redefining any key on your keyboard to be any combination of characters or commands that you desire.
SmartKey II $49.95

SmartPrint: A powerful add-on to SmartKey, SmartPrint is a vesatile writing tool designed to give you full access to your printer's features such as wide, bold, condensed, underlined, subscript, superscript, and more. Works great with programs like WordStar and others.
SmartPrint $29.95

Uniform: Now your QX-10 can read and write 80 popular single and double sided disk formats including MS-DOS and PC-DOS. Uniform allows you to transfer text and data files from one computer to another . This providing the ability to start work in on the IBM-PC at the office and finish it at home on your QX-10.
Uniform (QX-10) $69.95

PROGRAMMER'S CORNER

C/80 Ver 3.1: Full featured C compiler and runtime library. One of the fastest on the market. Mathpak provides true 32 bit floating point and signed integer data types.
C/80 Ver. 3.1 (QX-10) $49.95
C/80 MathPak (QX-10) $29.95

Toolworks C: This compiler is a complete subset of C. The two-pass compiler produces relocatable object files (.obj) which are compatible with the MS-DOS LINK program. Mathpak provides true 32 bit floating point and signed interger data types.
Toolworks C Compiler (QX-16) $49.95
Toolworks C MathPak (QX-16) $29.95

Turbo Pascal: Borland version 3.0. The best Pascal compiler on the market.
Turbo Pascal $69.95

Turbo Toolbox: Set of 3 utilities for use with Turbo Pascal.
Turbo Toolbox $54.95

Turbo Tutor: Step-by-step instructions on how to use Turbo Pascal.
Turbo Tutor $34.95

GAME ROOM

Adventure: Explore the dangerous Colossal Cave for treasures. Endure mystical spells and overcome adversaries. The only original version, uncut, and endorsed by its creators!
Adventure $19.95

Airport: You are an air traffic controller and your radar screen is filled with aircraft under you guidance. See how long you can last without cracking. Tougher than the real thing!
Airport (QX-10). $19.95

Eliza: The pioneering artificial intelligence program, Eliza is a psychiatrist that carries on a conversation in plain English about anything you wish. Great to play alone or in a group.
Eliza $24.95

Mychess: Epson QX-10 owners rave about the full graphics version of this award-winning world class chess program. Features nine skill levels with over 850 opening moves. Prints moves and saves game in progress. Graphics version requires Epson version B of CP/M. A character graphics version is also included for version A of CP/M.
Mychess $34.95

Word Wiggle: Scrambled letter game for building vocabulary skills of young and old. Eleven skill levels containing 40,000 word dictionary. Fast paced, fun, and educational. Great for kids!
Word Wiggle $29.95

COOK'S CORNER

MyDiet: Create your own personal nutritional profile that will help you derive the maximum benefit out of the foods you eat. MyDiet is designed for the professional nutritionist, but is easy to use. Compares to programs costing hundreds of dollars!
MyDiet (QX-16) $49.95

Computer Chef: - #1 in the Series:The computerized cookbook for food lovers. Contains a data base of almost 100 recipes with space to add your own. Auto scale ingredient quantities, find recipes by key words or type of ingredients you want to use, then display or print your selection. Many other features.
Computer Chef $29.95

What's for Dinner: - #2 in the Series: A collection of 200 delicious main dish and dessert recipes for every occasion. Requires Computer Chef program. (Not included.)
What's for Dinner $19.95

The Best of Wok Talk: - #3 in the Series: Exotic Chinese cooking is easy with this computerized cookbook. Over 100 recipes from all regions of China. Includes Computer Chef program.
The Best of Wok Talk $29.95

HOME & BUSINESS CENTER

Checks & Balances version 3.6: A complete personal checking program or business register. 3.6 is completely rewritten and includes check writer and data base. It is easy to learn and use with new features including more types of reports. Complete with new 180 page manual. An excellent money manager!
Checks & Balances $74.95

Mycalc: A versatile spreadsheet program with capabilities including use of formulas, logical operations, labels, variable column width, and references across multiple spreadsheets.Sorting and output to printer of disk files also provided. Comes with a variety of useable sample spreadsheets. Beats other programs at twice the price!
Mycalc $59.95

WRITER'S WORKSHOP

Punctuation & Style: Improves your writing by catching unbalanced quotes, parentheses and brackets, improper abbreviations, capitalization, sentence structure, much more. Like having your own copy editor!
Punctuation & Style $125.00

Spell: Powerful spelling checker with over 50,000 words. Works on text files created with Valdocs, Wordstar or Perfect Writer. Faster than other spelling checkers used on the QX-10.
Spell $49.95

WordFinder: This powerful 90,000 word thesaurus allows you to select the best word to solve any writing problem. Works inside WordStar for greater ease of use. WordFinder searches its dictionary, then displays synonyms, and automatically deletes the "wrong" word and replaces it with the "right" word. Perfect for instantly verifying the spelling of a word while editing.
WordFinder $79.95

Wordpatch: Print files with tiny, compressed, wide, or wide compressed type faces. 5 sizes of italic, real superscripts and subscripts, and 6, 7, and 8 lines per inch spacing. No new print controls to learn. Supports most popular dot matrix printers. A must for WordStar users!
Wordpatch $49.95

The Word Plus: The ultimate spelling checker. Not only finds misspelled words but shows you correct spelling options, shows the word in context, builds dictionaries of special words you use, and much more.
The Word Plus $150.00

SCHOOL HOUSE

Funzeez: Build fundamental arithmetic and language skills. Provides four different programs to choose from: flashing numbers, arithmetic drills, unscrambling words and word guessing. Grades 2-5.
Funzeez $39.95

Math Tutors: Improve your skills in basic thru advanced math. Learning thru multiple-choice problems with help and hint functions provided. Grades 8-College.
Algebra . . . . . $39.95 **Calculus** $39.95
Geometry . . . . . $39.95 **Trigonometry** $39.95

SAT Score Builder: This program is designed to help students prepare for the Scholastic Aptitude Test required by most colleges and universities. Includes Help function.
SAT Score Builder $39.95

Reading Professor: Now you can use your computer to boost your reading speed while increasing comprehension and retention! Self-paced lessons show immediate improvement and feedback. Includes different practice exercises. Developed by skilled educators, this program tracks user's progress and monitors reading rates up to 2500 wpm. Additional reading libraries available for Jr High, Adult and Professional levels.
Reading Professor $59.95
Additional Libraries . . . . . **(each)** . . $15.95

ACCESSORIES

Acceler8/16: Speed up your MS-DOS computer up to 15% plus be able to run CP/M programs directly. Just change the CPU chip with one provided and load the software driver to upgrade your IBM or compatible. Media Master is provided to read and write 75 CP/M formats. A $140.00 value.
Acceler8/16 . . . . . $99.95

QX-10 and QX-16 Keyboard Cable: Designed to replace the original cable allowing the user to position the keyboard up to 12 feet from the computer for maximum ease of use. This high quality cable meets the exacting electrical specifications of the QX-10 and QX-16.
Keyboard Cable $28.95

Video Extension Cable: New and improved, designed to replace the original 24" video cable allowing the user to position the CRT up to 6 feet from the computer for maximum flexibility. This cable meets the exacting electrical specifications of the QX-10 and QX-16.
Video Extension Cable $34.95

Finger Print "Letter Writer": Unleash your Epson FX series printer. Add near-letter-quality print, IBM and/or Apple Graphics printer emulation, plus 16 other print functions! Three replacement chips quickly fit inside Epson FX series printers. Easy installation. Does not void printer warranty.
Finger Print "LetterWriter" $79.95

All items are warranteed for 90 days. 30 day money back guarantee if not completely satisfied. Money back guarantee for software applies only if diskette seal is intact. VISA and MasterCard are welcome. Please add $2.50 freight per total order and $2.50 for COD orders. California residents please add 6% sales tax. Prices, availability and specifications subject to change without notice.

CP/M - DRI; MS-DOS - MicroSoft; WordStar - MicroPro; QX10, QX16 ,FX - Epson; dBase II, dBase III - Ashton-Tate; IBM - IBM Corp.

CALL TODAY National **(800) 821-8778**
California **(800) 521-7182**

Hours: Mon - Fri 8 am - 5 pm PDT

DEALER INQUIRIES WELCOME.

advent products inc

3154-F E. La Palma Ave.
Anaheim, CA 92806
(714) 630-0446

Automating A Solo Law

by J. Britten Miller, Jr.

Briefly, I'll explain how I automated my law practice with VALDOCS 1.18, 1.19, and tell you why I think solo automated law could be revolutionary in business and law.

Our firm recently bought a TI Professional with Peachtext 5000. It was another tool for our secretary. Only two of the lawyers spent any time at the keyboard. From day one we were six months behind, while the secretary learned the system. The typewriter was still the chief document generator for the office. The potential for automating the practice intrigued me, but the lesson with the TI PC was still fresh. Fatefully, I wandered into a QX-10 demo at a local computer store.

In the winter of 1983, I withdrew from the firm, bought a QX-10 and moved to our farm in the mountains, forty-five miles north of Atlanta. Over the next year I copied files and data to disk as needed, evolving through several systems to one which is efficient for less than 500 clients in a general law practice. With very little computer user experience I was using my QX-10 productively as soon as it was turned on. If my children's Commodore 64 was "user friendly" the QX-10 with VALDOCS was "idiot friendly."

Initially, I intended to copy all my files to disks for each client and maintain a filing system under client names or numbers, as was done manually in the office before. The task was awesome and soon the VALDOCS indexing system greatly simplified the task. I maintain two types of disks regularly: Form disks, i.e., domestic relations forms, contracts, criminal forms, civil forms, etc., and document disks; letters, addresses, current cases, appeals, etc. Only after a client has a dozen or so files on document disks are they consolidated on an individual client disk and kept in a client disk file. This system greatly lends itself to hard disk usage, but is manageable with eighty disks (forty back up copies). The cross indexing feature of VALDOCS makes more detailed filing systems unnecessary. A file on the Domestic Relations disk called "Motion for modification of child support;Smith vs Jones; Cobb Co. pending $$" can be found under client name, adverse party name, document type or content and also if the bill is outstanding ($$). Since Georgia is a general pleading State a similar Motion can be created for a new case in minutes from the form disk or the current cases disk. Boilerplating entire documents and using "look for and replace" saves an incredible amount of time. I can form a new corporation, ready to mail to the Capital, in less than sixty seconds!

What's revolutionary about this? Consumer cost is an example. The going cost for law firm corporate formations in Atlanta is $1200 to $1500. You can do it yourself for about $135 and two full days of hassle with the Secretary of State (bureaucracy reigns), or with a phone call, a twenty cent stamp, my QX-10 and sixty seconds, I do it for a third the cost. Similar legal tasks which once required an interview, note consolidation, dictation, typing and editing can now be done in one sitting by the attorney. Formerly, tedious jobs like incorporations, bankruptcy and SBA loan applications are now painless, quick, and profitable. . .at one third the going rate. The indexing and word processing of VALDOCS offer a miriad of ways for solo attorneys to set up their forms and client files, self-tailored to their particular needs.

VALDOCS without modification provides nearly all the functions of law office management software, costing thousands of dollars. Scheduler is a fine "tickler file" and expense calendar. The address book keeps client data adequately, but I think Cardfile works better in Version 2, not that one should be wed to VALDOCS, as universal as it is. Although VALDOCS makes up in ease of use for its shortcomings, beyond word processing, VALDOCS is an excellent indexing and organizing aid. However, aside from letters, motions and pleadings, it doesn't offer the creative help I need.

Enter KAMAS. . .for writing legal briefs and appeals, this outline processor is great. It permits outlining your arguments, organizing them logically and ends rambling verbosity. For instance, an appeals brief on an illegal liquor making conviction might address the illegality of the search warrant used as well as other errors of law. KAMAS enables an attorney to outline the specific factual and legal points to make in order to attack the underlying decision with exact precision. Then by editing the outline and typing in the supporting case law a logical and direct argument is constructed, almost without organizational effort. Next the outline and text can be transferred to a CP/M file, retrieved under VALDOCS for editing and spell checking, and then formatted for printing. Appendage documents, verification, certificates of service, can be merged with the printed. brief before the final document is

The features of VALDOCS can be maintained or abandoned as desired since KAMAS has a spartan text editor of its own, and utilizing the editor is

Practice. . .

. . .Some Tips

quick. KAMAS has the ability to fill a management gap not found in VALDOCS. If you keep client time records on the scheduler and later want to compile the time on a monthly basis, under VALDOCS you'll have to manually search through and compile the totals for each day. KAMAS lets you create a date calendar similar to scheduler but with a universal search feature. The small inconvenience of swapping disks is offset by the ability to search the calendar by client name for time totals. Compiling time for billing is simplified this way. Merging a billing form with total time, client name and address makes billing a one day project.

KAMAS also has its own BBS option which expands the possibilities even more, since KAMAS is functional from a remote terminal. I don't know if a hard disk would permit remote VALDOCS operation as a utility under KAMAS, but that idea has beguiling potential. Lawyers can place their QX-10 at home or the office and use the modem to call up their files and create new documents from the phone outside the courtroom or even the tennis locker room. You could create Information files under KAMAS remotely as you research or investigate a case, and organize it into an outline then or later at the office, or even remotely.

Right out of the box the QX-10 or QX-16 is ready to help a new practice get started with a high degree of professionalism and precision. Coupled with KAMAS and a modem it becomes a very reasonably priced personal law practice system.

An old sage once told me "Son, you don't make money in the courtroom or law library." With LEXIS and WESTLAW available to PCs and terminals for the cost of maintaining a good law library in the office, you can have instant access to an unlimited legal research facility. Remotely, at trial even, that latest case can be found or checked. A lawyer can now practice his profession from almost any location with a phone. And more important than the convenience, it can be done with the best resources available.

This means the sole practitioner can effectively compete with the largest law firm on an equal resource footing. I think this fact will change the profession for the better. Talented young attorneys need no longer become someone else's employees or associates for job security or carrier potential. The cottage Attorney can provide similar services at a reasonable price, maintain a one on one relationship with clients, and maximize his time. The need for secretarial and research support and expense is minimized. If the practice grows, associates can come on board and still keep the office overhead low.

The last piece of necessary hardware in my automated solo law practice is an "Omni Reader", optical line reader. Its major advantage is its potential for eliminating hand entry of forms or documents. . .even for a first time. . .into the system. The Omni Reader's second advantage is its price of under $400.00. That's about one-tenth the going price of OCR scanners, which at five to ten thousand dollars are faster, more reliable over a broader range of font characters, and look like a Xerox machine. Omni Reader is the size of a legal pad and does a superb job of reading four standard type fonts. An original or good quality copy in Courier 10, Courier 12, Letter Gothic or Prestige Elite will go straight through your RS-232 port at 9600 baud and into an unformatted CP/M file on a formatted disk. The entry can then be brought up as a non-indexed file under VALDOCS, formatted, edited and stored as an indexed file. You can create forms and documents with the Omni-Reader as well, without the time consuming re-typing process.

Fortunately, most legal documents generated in law offices are in one of the four fonts it can read. Outside these four, the Omni Reader has problems. If you can get the optical head to read other fonts at all, the error rate is very high. More importantly, for some magical computerese reason, bad reads cause VALDOCS to go berzerk! The space bar generates strange characters and backspace delete is unpredictable. However, the Omni Reader has an uncanny ability to improve its error rate after ten or so line scans in the four main fonts. Priced at under $400 it is a real boost to the solo law practice. A little instruction and practice helps with the Omni Reader.

If you pick your reading material carefully, and develop your scan technique, the Omni Reader will be an inexpensive time saver. Like so much of current peripheral hardware, the Omni Reader is sold as an IBM-PC compatible accessory. Consequently, the sales people don't know if it works with CP/M machines, but it does. With MTERM from my CP/M-80 B disk, at 9600 baud, through the RS-232 port, Omni Reader is a far better choice than a 100 baud secretary.

I really see a revolution coming in solo law practice. With a QX, modem, and Omni Reader, armed with CP/M-80 B, VALDOCS and KAMAS, the limited means, small town practitioner can access the same law resources to assemble superb arguments as well as any specialized large law firm.

Solo practitioners need no longer be staff limited in the quality and kinds of law they practice. Solo practitioners can pursue general practice or specialize, as they wish, with referrals within their specialty from other cottage lawyers becoming a regular source of income.

25¢

PER PROGRAM

The most comprehensive collection of CP/M based PUBLIC DOMAIN on the market...

C&C from sea to sea...

PUBLIC DOMAIN SOFTWARE **$75.00**

USEFUL BUISNESS PROGRAMS
Amortization, Graphics, Word processing Spell Checker, Dictionary, Mail merge...

UTILITIES DeBugging & CP/M tools, Telecommunications, C Assemblers.

EXCITING GAMES Pacman, Donkey Kong, Monopoly, Hangman, Blackjack, MORE.

POSTERS Ready to Print !!

** RECOVER ERASED FILES **
This one program could be worth entire cost

HX-20 OWNER? Programs for you too!

AND MUCH, MUCH MORE !!
Over 400 programs on 10 Disks. Including Multiple Indexes with complete descriptions in an attractive 9" x 12", 3 ring Binder.

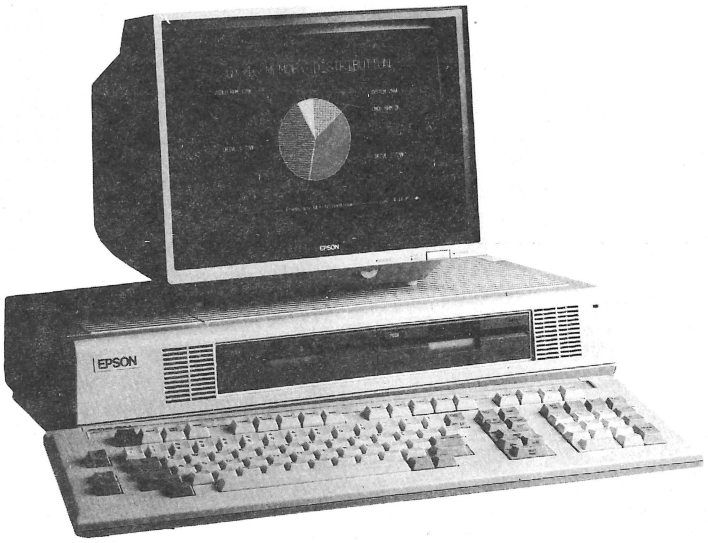
WE ACCEPT... VISA MasterCard AMERICAN EXPRESS

Checks must clear, Add $3.00 for Shipping.
PLEASE Request quotes on any Hardware or Software for QX OR HX Systems.

C&C Computers

(305)777-6831 or (305)773-5110
262 E. Eau Gallie Blvd.
Indian Harbour Beach, FL 32937

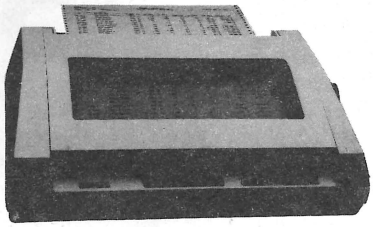
We will beat any advertised price in this magazine on the QX-16 by $20.00



QX-16 995.95*!

NEW in the box with Valdocs 2, Keyboard, 512 K mem, & 2 Drives. *Monitor not included; new monitor in the box only $99.95! The retail price of the QX-16 is $2,495 and your price is far below dealer cost. So don't wait; these will be gone FAST. Yes, we warranty these for 90 days. No, this isn't a misprint, $1,095.90 IS the system price. QX-16's run QX-10 (p/m) AND IBM MS-DOS software. They also have twice the drive storage capacity as a QX-10 (720 K each), 3 QX card slots, serial and parallel ports.

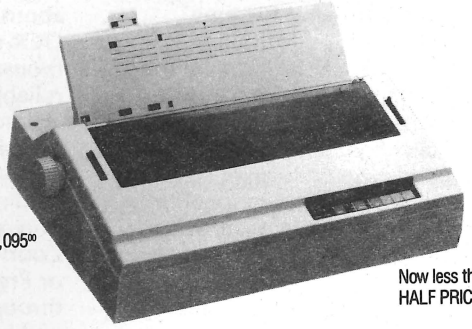
CR420
Reg. $2295
Now $1095



CR 420 HIGH SPEED 1095.00!

Epson's Comrex 420 IS 420cps, 17 fonts, 16" wide carriage, Parallel and Serial, 18u buffer, super quiet and reliable. Friction and Tractor Feeds included. It's over 5 times faster than the Epson MX-80. These are brand new in the box with a 90 day warranty also.

Reg. $1,095.00



Now less than HALF PRICE

CR IV LETTER QUALITY 499.95!

NEW in the box, Epson's Comrex CR IV Daisy Wheel Printer speeds along at 36 cps, has a 15½" wide carriage, 7 k buffer, and it's quiet. Printer cables for IBM, Equity, QX-10, QX-16 (please specify) are only $29.95. I wouldn't wait on this special either, they'll be gone even faster than the QX-16's. Optional Tractor Feeds and Cut Sheet Feeders are available. Extra Multi Strike Ribbons are $6.95 and print wheels 10, 12, 15 cpi $29.95 each. Printer comes with 90 day warranty, 1 ribbon, and 1 printwheel. This is the same printer as the Brother HR-35.

Visa, MasterCard, and Cashier Checks accepted. Add $25.00 for computer and $15.00 for printer to cover shipping in Cont. US. $20.00 additional for COD. Most orders shipped next day. Quantity Discounts Available.

THE COMPUTER CENTERS
5512 Poplar Ave., Memphis, TN 38119
For questions and info call 901-761-4565
1-800-524-5554 at the tone dial 0524 for Order Desk

Dealer Inquiries Welcome.
We buy Excess Inventory.
Prices subject to change.
Prices may be higher in our Retail Stores. Allow two additional weeks for personal and company checks to clear.

EpsonNet Network
RBBS/RTPM

NORTH WESTERN STATES

Monterey, CA **
408-646-8171
24 Hrs. 7-Days

SOUTH WESTERN STATES

Torrence, CA **
213-539-6765
24 Hrs. 7-Days H.D.

Los Angeles, CA **
714-630-7104
24 Hrs. 7-Days H.D.

Salt Lake City, UT ***
801-485-0383
24 Hrs. 7-Days

Victorville, CA **
619-243-1265
10am-3pm Mon-Thurs H.D.

NORTH CENTRAL STATES

Leawood (Kansas City), KS ***
913-642-8479
24 Hrs. H.D.

SOUTH CENTRAL STATES

Dallas, TX ***
214-881-0313
24 Hrs. 7-Days H.D.

Houston, TX **
713-991-4461
24 Hrs. 7-Days

Brownsville, TX *
512-831-3555
6pm - 10pm M-F
24 Hrs. Sat & Sun

MIDWEST STATES

Wauwatosa (Milwaukee), WI ***
414-351-9246
4pm - 10pm M-F
8pm - 12am Sat-Sun

Epconn SOCIS ***
Detroit, MI (PW=EQUITY)
313-823-1425
24 Hrs. 7-Days H.D.

Lake Zurich (Chicago), IL **
312-438-6149
Mon-Sat 8pm-11pm

Portage, IN **
219-762-5620
6pm - 6am 7days

Aurora, IN ***
812-926-3396
24 Hours

NORTH EAST STATES

Methuen, MA **
617-689-0699
Weekdays 2pm - 12am
Weekends 6pm - 12am

South Blue Hills, ME ***
207-374-2203
6pm - 6am H.D.

Sugarbush, VE ***
802-496-4123
24 Hrs. 7-Days H.D.

EAST CENTRAL STATES

Sussex, NJ ***
201-875-2635
24 Hrs. 7-Days

Perry Hall (Baltimore), MD **
301-256-8012
8pm - 6am Mon-Sat

West Chester, PA **
215-692-7502
9pm - 8am M-Sat.

Philadelphia, PA **
215-938-0334
8pm - 8am M-Sat.
All day Sunday

EPSONCONNECTION **Quick Action Card**

I have seen your _____ in the _____
(specify product name/service) (specify issue date)
issue of the EpsonConnection.

☐ Please send me detailed information.
☐ Please call me with detailed information.
Telephone Number (___) _____
☐ Please have your nearest dealer contact me.

NAME _____ TITLE _____
COMPANY NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

EPSONCONNECTION **Quick Action Card**

I have seen your _____ in the _____
(specify product name/service) (specify issue date)
issue of the EpsonConnection.

☐ Please send me detailed information.
☐ Please call me with detailed information.
Telephone Number (___) _____
☐ Please have your nearest dealer contact me.

NAME _____ TITLE _____
COMPANY NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

EPSONCONNECTION **Quick Action Card**

I have seen your _____ in the _____
(specify product name/service) (specify issue date)
issue of the EpsonConnection.

☐ Please send me detailed information.
☐ Please call me with detailed information.
Telephone Number (___) _____
☐ Please have your nearest dealer contact me.

NAME _____ TITLE _____
COMPANY NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

PLACE
STAMP
HERE

Name and Address
of Manufacturer

PLACE
STAMP
HERE

Name and Address
of Manufacturer

PLACE
STAMP
HERE

Name and Address
of Manufacturer

Philadelphia, PA **
215-673-5661
24 Hrs. 7-Days

Hidden Valley, NJ ***
201-764-2507
24 Hrs.

SOUTH EASTERN STATES

Troutman, NC **
704-528-6687
7pm Fri-7am Mon

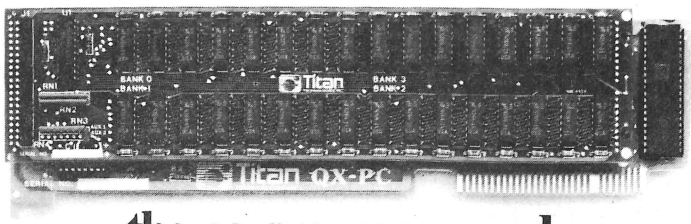
AUSTRALIA

Michael Nobbs **
73 Dumaresq St.
Cambelltown
Australia, 2560

* indicates 300 Baud only.
** indicates 300/1200 baud.
*** indicates 300/1200/2400 baud.
H.D. indicates Hard Drive.

QX-10's, used with warranty
Call for current price

Titan's new QX-PC™

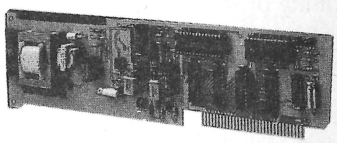


the co-processor card that lets your Epson play like an IBM.

Now you can run MS-DOS on your EPSON QX-10
192K Titan 379.00 256K Titan 389.00
384K Titan 539.00 512K Titan 569.00
256K Aux Exp. Board 199.95*

ACORN CLOSEOUT!

	Reg.	Sale
Typing Professor—Improves speed and accuracy	50.00	24.95
Laser Tanks Maze Game Loads of fun	45.00	9.95
Convoy Attack—Fly your own fighter plane	45.00	14.95
Blackjack Mentor "21" Vegas Rules	30.00	9.95
Falcon Adventure—climb through mountains	30.00	9.95
Logo Language—Educational Programming—Uses turtle geometry. Ages 2-10	145.00	19.95
Math Professor—20 levels of difficulty	50.00	24.95
Underground City—Protect yourself from Flying Aliens	45.00	14.95
Bumper Cars—Just like the Fair except for Bulldozer	45.00	9.95
Star Destroyer	30.00	9.95
Nutricalc Diet Program also comes with a chocolate diskette	145.00	24.95
Nutricalc IBM Format	145.00	24.95
Reading Professor—A speed Speed Reading Tutorial	145.00	24.95



CR103 Modem Card
Was 179.95 Now 59.95
Let your computer talk to any other computer that has a modem via phone line. 300 Baud

EPSON QX-10/16 ACCESSORIES

CR103 Modem Card (fits inside QX) ..... $ 59.95
Titan MSDOS Card (user can install) 379.00
(Lets you run most IBM software on your QX-10)
LQ800 Dot Matrix 599.00
FX286 Wide Carg. Dot Matrix 599.00
LX80. Near letter quality 239.00
New LQ 1000 ..... 799.00
DX10 and 20 ..... 249, 379
LQ1500, 200cps & near letter quality 889.00
Parallel or serial card 69.95
Comrex-420cps Printer 1095.00
QX-10's, used, usually available at 795.00
CRIV letter quality printer was 1095.00 ..... 499.00
Call for pricing on other EPSON printers.

Discounts up to 25%

Valdocs 2.0 up grades in stock 44.95

Visa, MasterCard, COD's accepted. Add $4 for shipping per order, most orders shipped next day. Prices subject to change without notice. Happy Computing!

* Trademarks of Rising Star

	Reg.	Sale
FRIDAY by Aston Tate Makers of dBase III	$295.00	$ 79.95
Ribbons MX,RX,FX 80 cartg.	9.95	4.95
Ribbons MX,RX,FX 100 cartg.	19.95	10.95
Printer switch—2 printers, 1 computer, or 1 printer on 2 computers	79.95	69.95
Diskettes Nashua DSDD 10 box—Reg. $39.95	22.95	12.95
Team 300/1200 Modem, Hayes Compatible		299.95
QX-10 Book, Barian	16.95	10.95
QX-10 to EPSON (Cent.) printer cable—was $49.95	49.95	24.95
Multiplan 6y Microsoft Spreadsheet	199.00	79.95
QX-16 Color monitor cable		29.95
Color monitor (Comrex 6600) RGB for QX-16 or IBM	399.00	189.95
Both the above work in the MS-DOS Mode Only		
Q Plotter graphics program V2.4	175.00	99.95

* Free Titan Ram Disk or Print Buffer disk with card

	Reg.	Sale
Accounting Partner GL, AR, AP, and payroll. All 4	$399.00	99.95
Chang Labs Home and Small Bush Accounting	199.95	39.95
Home Accountant	129.00	79.95
Peachtext 5000; word proc, Dict. Spreadsht. Thesaurus	$395.00	59.95
Zork II, Adv.	49.95	24.95
Zork I or III	49.95	39.95
Personal Pearl Data Base	299.00	119.95
Deadline or Infidel	59.95	54.95
Sorcerer or PlanetFall	59.95	49.95
File Plan Data Base Chang Labs	295.00	39.95
Valpaint, Valdraw* with mouse	495.00	245.00
dBase II Hasci	499.00	179.95
CPM 80 2.25B Last Chance	29.00	24.95

Dealer Inquiries Welcome

THE COMPUTER CENTERS
5512 Poplar Ave., Memphis, TN 38119

Gregg Hall

1-800-524-5554 at the tone, dial 0524 for ORDER DESK. For questions and info call 901-761-4565

685-0009

Using MATRIX to Customize Your VALDOCS Keyboard Character Set

by William P. Love

One of the major reasons I purchased an Epson QX-10 computer and an FX-80 printer was the ability to modify the existing printed characters into designs of my own choosing. As a college mathematics professor, my work requires a large number of specialized mathematical symbols not found on any standard keyboard. Now that Valdocs 2 has arrived with the MATRIX utility program, I have created my own personalized character set of mathematical symbols.

Any professional, such as an engineer, architect, physicist, or anyone working in a field which uses specialized symbols will find the MATRIX program easy to use and the new characters will significantly increase the power and effectiveness of his or her QX.

BACKGROUND INFORMATION

The keyboard has 48 keys arranged in four rows, each key having four positions: lower-case, upper-case, graphics, and shifted-graphics. Thus it is possible to input 192 characters from the keyboard. Of these, 96 may be altered using MATRIX while the other 96 are "permanent" and may not be changed. Each character has been assigned an identification number. The characters which may be altered using MATRIX begin with number 32 and end with number 127.

Figure 1 shows the original 96 characters which are used for the SCREEN. Notice the identification number above each character.

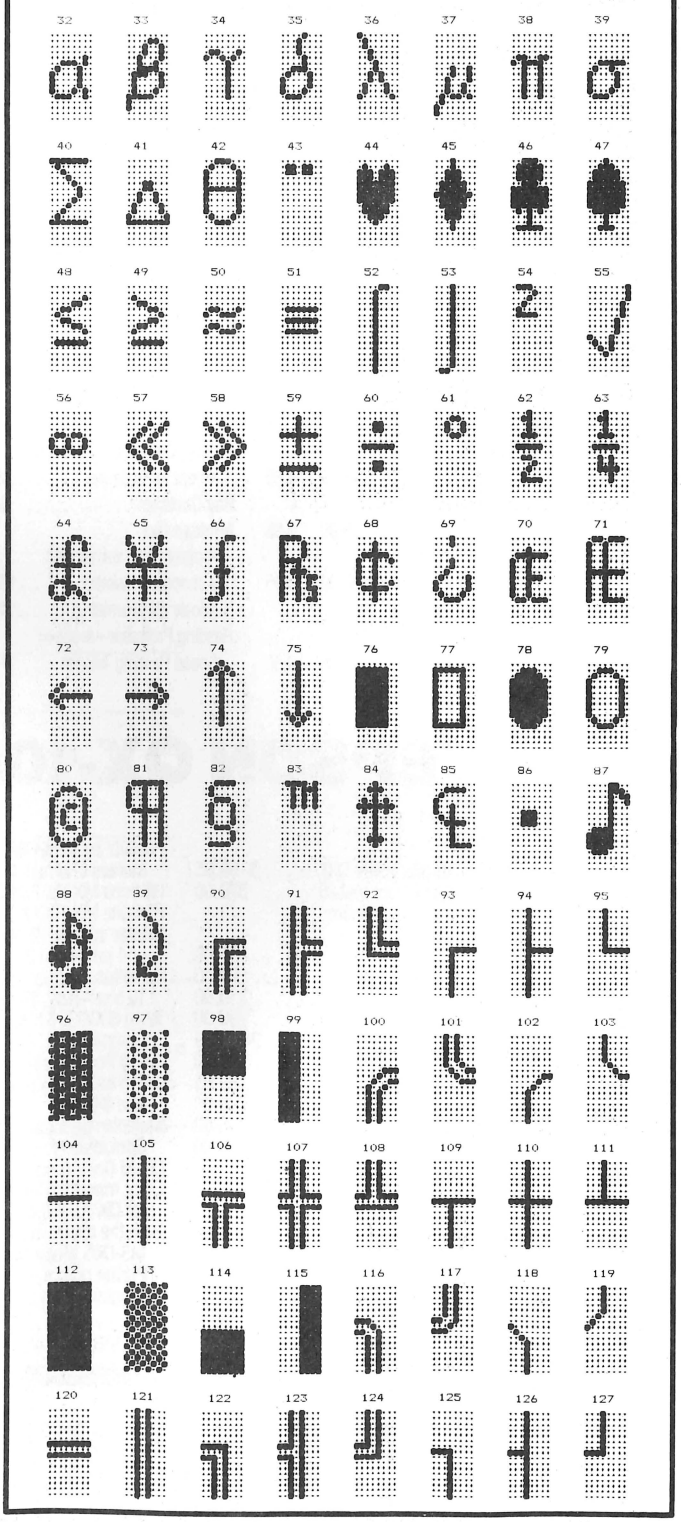
Figure 2 shows the original 96 characters which are used for the PRINTER.

Examine both these figures. Notice that the characters are designed on a **grid of dots** in figure 1, and are designed on a **grid of squares** in figure 2. It is important to realize that the characters appearing on the screen and the characters which are printed by your printer are created independently. Thus, to make a new character you must construct it twice, once for the SCREEN (as in figure 1), and then again for the PRINTER (as in figure 2).

Each character number is assigned to a specific key on the keyboard. Figure 3 shows the keyboard and indicates which keys are used to control the characters numbered 32 to 127.

In figure 3, notice that each key has four positions. Lower- case (the top number), upper-case, graphics, and shifted-graphics (the bottom number). For example, the "±" key (upper left) does the following:

Figure 1



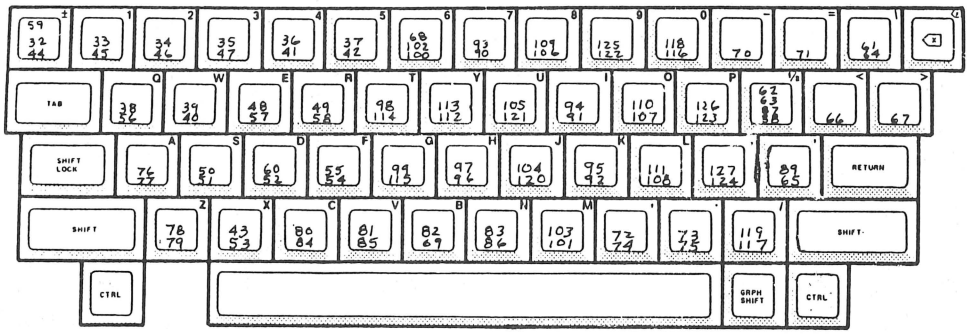
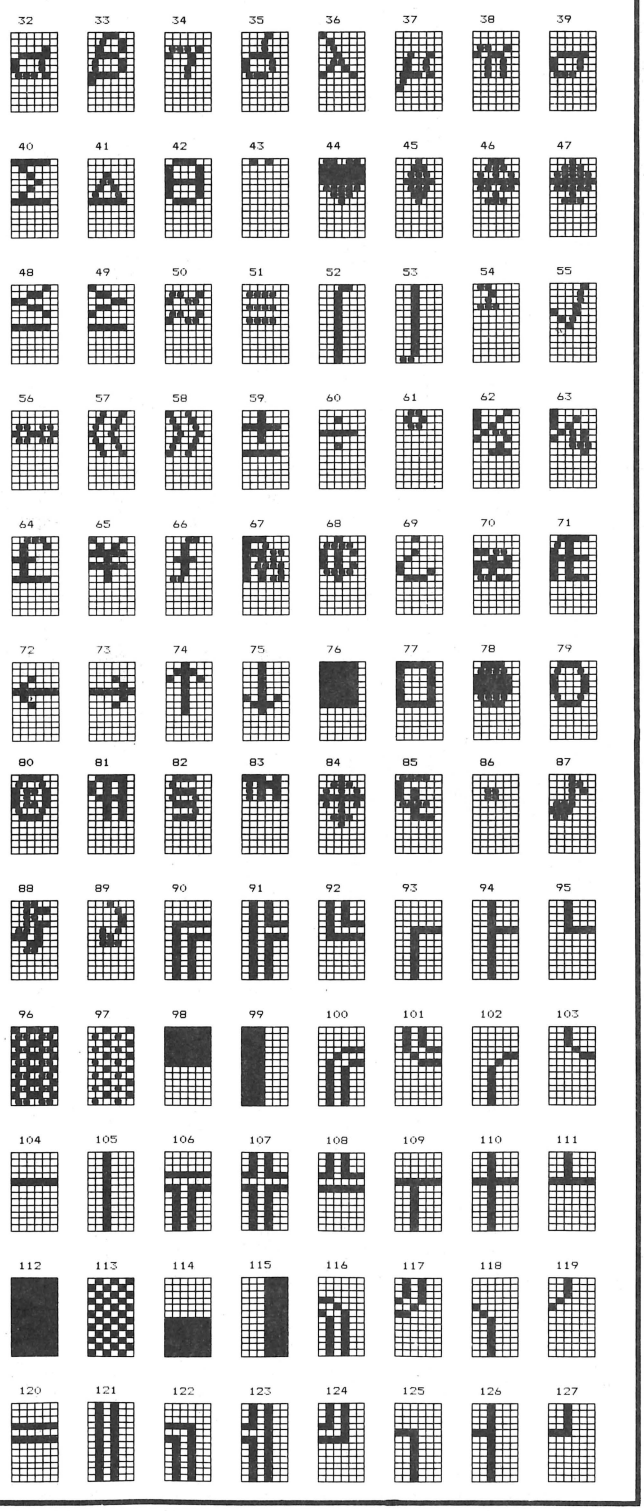


Figure 3

Figure 2



Prints character 59	**in lower-case position.**
Prints symbol "^"	**in upper-case position.**
Prints character 32	**in graphics position.**
Prints character 44	**in shifted-graphics position.**

GETTING STARTED

Examine the original 96 characters shown in figure 1. Decide which ones you wish to keep and which ones you can eliminate and replace with new symbols. Subtract the number you want to keep from 96, and this will determine how many new symbols you can create.

You may find it useful to improve upon some of the original characters by changing their size or shape. For example, I changed the parentheses, brackets, braces, and diagonals as shown:

Original characters: ([{ / \
Modified characters: ([{ / \

Make a list of the new characters you wish to create. You will want to include special symbols frequently used in your work. It is also helpful to look through professional journals or books for symbols you may have overlooked. Once your list of new characters is prepared you are ready to design your keyboard. This will probably require a great deal of trial and error before you settle on your final arrangement.

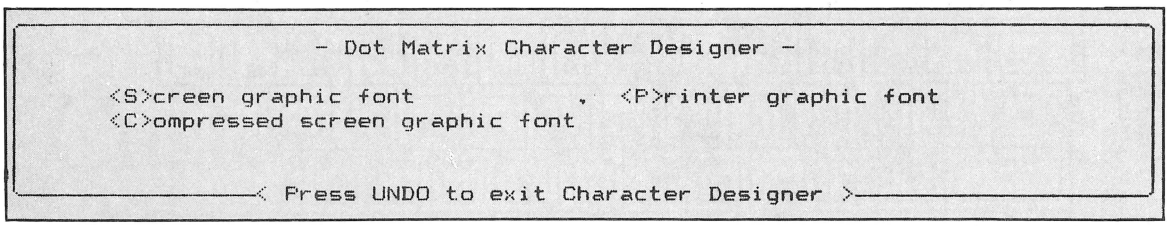
The main problem in designing your keyboard is remembering which key controls which character. Certain symbols will be associated with markings on the keys. For example, the Greek letter alpha is easily associated with the key marked "A." Other symbols may be located at positions which are easy to remember. I frequently use the π symbol . Therefore, I positioned it at the top left key marked " ± " so I could find it easily.

It is helpful to sketch your new characters on a keyboard similar to figure 3. When you have finished experimenting and finalized your keyboard design, you must determine which character number will be assigned to each symbol.

It is useful to make a listing showing the character number and its corresponding symbol as shown in Diagram A. This list makes using MATRIX very easy and eliminates many mistakes.

Character number	New symbol
32	π
33	★
34	✠
•	•
•	•
•	•
127	♡

Figure 4



CALLING MATRIX

Now you are ready to call MATRIX to begin creating your newly designed character set. Your Valdocs 2.0 package contains 5 diskettes. The MATRIX program is found on the UTILITIES disk. To use it, follow these steps:

1. Load Valdocs 2.0 system.
2. Press MENU and select Menu of Applications.
3. Under Menu of Applications select Left Drive.
4. Remove Run-Time disk from left drive. Replace it with UTILITIES disk.
5. From menu, select MATRIX; press RETURN twice.
6. MATRIX loads and the main menu appears. You may select either <S>creen or <P>rinter. I recommend you choose <S>creen first.
7. Message will appear: "FX80.STL not found on disk."
8. Remove UTILITIES disk from left drive, replace with LOAD-TIME disk.
9. When Load-time disk is in place, the MATRIX character grid will appear.
10. Press UNDO. This will take you back to the MAIN MENU for MATRIX.

Figure 4 shows the MAIN MENU. It gives you a choice of three options: <S>creen or <P>rinter or <C>ompressed.

From the MAIN MENU select <S>creen. This takes you to the SCREEN GRID as shown in figure 5. Press UNDO to return to the MAIN MENU.

From the MAIN MENU select <P>rinter. This takes you to the PRINTER GRID as shown in figure 6. Press UNDO to return to the MAIN MENU.

From the MAIN MENU select <C>ompressed. This takes you to the COMPRESSED GRID as shown in figure 7. Press UNDO to return to the MAIN MENU.

Thus, MATRIX has three main modules: the SCREEN module, the PRINTER module, and the COMPRESSED module. All three modules are very similar, and once you understand how one of them works you will know how to use the other two.

USING MATRIX

From the MAIN MENU, select <P>rinter. The PRINTER GRID will appear (figure 6). On the left side of the screen is a rectangular grid (or matrix) which is 6 squares wide and 12 squares tall. You will create a new character on this grid by placing or removing dots to form a pattern or symbol.

On the right side of the screen are the current 96 symbols. As you create and store a new character it will replace one of these.

At the bottom of the screen is a long rectangle with three compartments, each defining a particular operation.

Figure 5

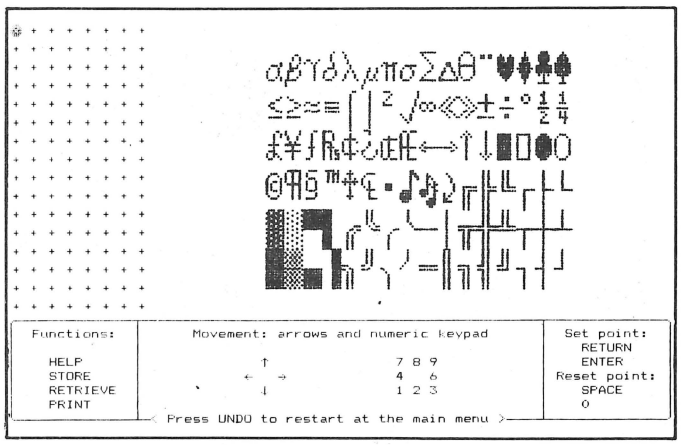


Figure 6

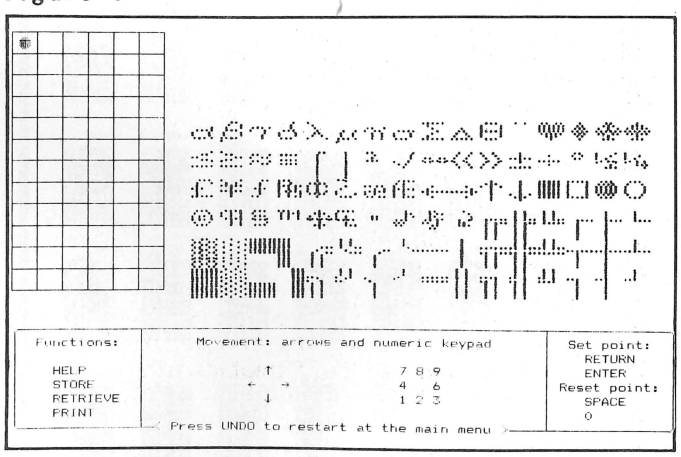


Figure 7

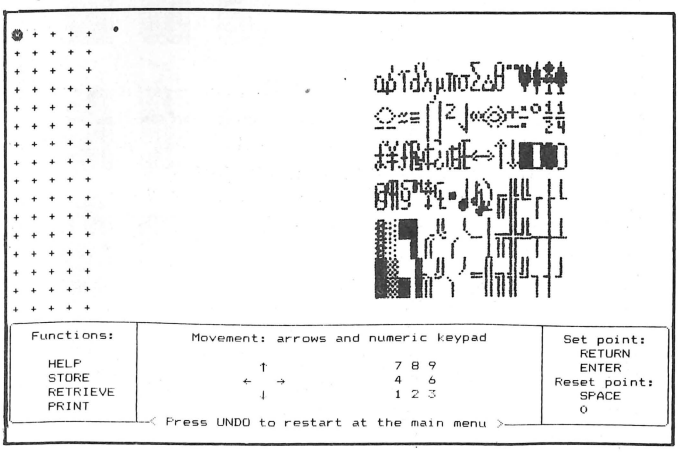


Figure 8

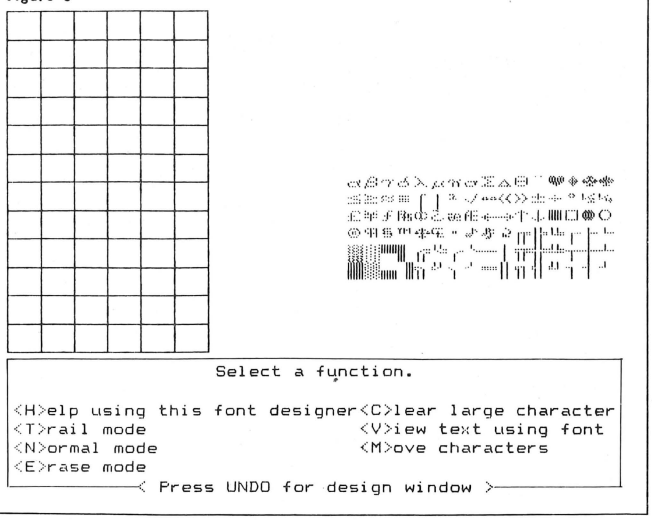


Figure 9

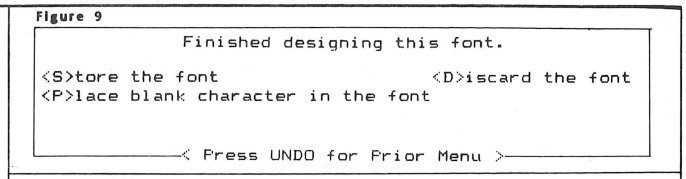


Figure 10

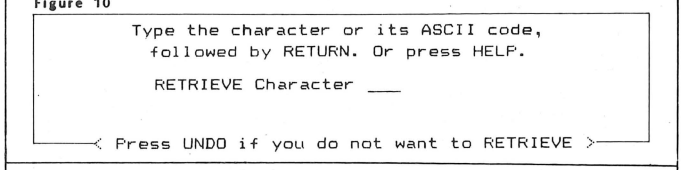
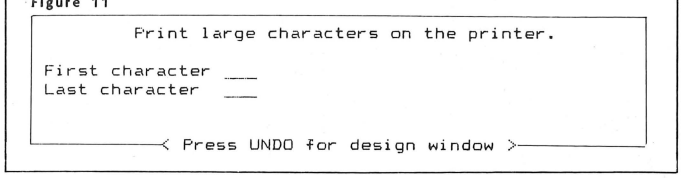


Figure 11



The middle compartment describes how to move the cursor. The cursor may be moved up, down, right, or left across the grid by pressing the horizontal or vertical arrow keys, (e.g., ← or →). The cursor may also be moved around the grid by pressing digits on the numeric keypad: 4 or 6 for horizontal movement; 2 or 8 for vertical movement; and 1, 9, 3, or 7 for diagonal movement.

The right-hand compartment describes how to create or erase a dot. A dot may be placed on the grid at the cursor location by pressing RETURN on the keyboard or ENTER on the numeric keypad. A dot may be erased at the cursor location by pressing SPACE BAR or 0 on the numeric keypad.

The left-hand compartment describes 4 possible operations: HELP, STORE, RETRIEVE, or PRINT.

Press HELP and a menu will appear as shown in figure 8.

This menu offers assistance in using MATRIX:
<H>elp will give directions for creating new characters;
<T>rail will leave a trail of dots as you move the cursor;
<N>ormal creates and erases dots using RETURN and SPACEBAR;
<E>rase erases dots in trail mode;
<C>lear erases entire grid so you may start again;
<V>iew allows you to see the character;
<M>ove allows you to raise, lower, or shift the entire pattern for alignment.

Press STORE and the menu presented in figure 9 will appear.

This menu allows you to store your new character permanently:
<S>tore places your new character into the font (you must assign it a character number between 32 and 127);
<D>isregard will erase the grid;
<P>lace will store a blank character in the font and erase any character stored there.

Press RETRIEVE and the screen shown in figure 10 will appear.

This operation allows you to recall some character which has been previously stored. You may recall any of the 96 characters by typing the proper character number. For example, type "32" and the Greek letter alpha will appear on the grid. You may alter it and return it to its original location or assign it to a new location using STORE.

Press PRINT and the screen shown in figure 11 will appear.

This operation allows you to print your grid design for a single character or a consecutive string of characters similar to those in figure 2.

To print a single grid design, see figure 11. For example, if you wish to print character 44, in the blank space following "First character," you type 44, then press RETURN. In the blank after "Last character," again type 44 and hit RETURN.

To print all the characters, after "First character" you type 32, then RETURN. After "Last character" you type 127, then RETURN. It takes about 10 minutes to type all 96 characters.

Now back to the MAIN MENU (figure 4) and select the <S>creen option. This takes you to the SCREEN GRID shown in figure 5.

On the left side of the screen is a rectangular grid (or matrix) which is eight dots wide and 16 dots tall. You will create a new character on this grid by placing or removing dots just as before on the printer grid. On the right are the current 96 symbols, and at the bottom is a long rectangle with three compartments.

The operations involving the SCREEN GRID are virtually identical to the operations for the PRINTER GRID except that one is formed from dots while the other is formed from squares. The operations of HELP, STORE, RETRIEVE, and PRINT are identical.

HINTS FOR CREATING NEW CHARACTERS

Basically, MATRIX may be used to perform three actions:

1. **Create a new symbol or character.**
2. **Modify an existing character.**
3. **Change character from old key to new key location.**

Creating A New Character: Make the new symbol on the printer grid; assign it the appropriate number; then STORE it. Again recreate the symbol on the screen grid; assign it the same number; then STORE it. When finished, STORE the entire font. Re-boot the system so the new characters will be loaded into the fonts, and you are ready to go.

Modify An Existing Character: From the screen grid, RETRIEVE the character you wish to modify. It will appear on the grid. Make alterations, then STORE it. Then from the printer grid, RETRIEVE the same character; make the same modification; then STORE it. When finished making all the changes, STORE the entire font. Re-boot the system to load the new font. You are done.

Change Location Of A Character: From the screen grid, RETRIEVE the character you wish to relocate. Then STORE it, assigning it to a new location of your choice. Do the same for the printer grid. The character will now be located both at the old and new locations. You must erase the old location or store a new character in that position.

Alignment Of Symbols: It is important to have your new characters align and blend with the permanent characters. It is easy to create characters which are too large or which extend below the normal line of print.

Most alphabet letters are aligned such that their lower portions lie along a straight line. Some letters, such as "y" or "p" or "q" extend below this bottom line.

On the PRINTER GRID, imagine this bottom line to be located so that five squares are below it and seven squares are above. Thus, most new characters will be formed in the upper rectangle six squares wide and seven squares from the top.

On the SCREEN GRID, imagine this bottom line to be located so that four rows of dots are below it and 12 rows are above; thus most new characters will be formed in the upper rectangle eight dots wide and 12 dots from the top.

Murphy's Law: This author found that strange "trash" symbols would sometimes be printed where nothing showed on the screen. This trash seems to be printed somewhat randomly, and its cause has not been determined. It frequently appears when a new symbol is the last item printed on a line and another new symbol is the first item printed on the next line.

Although the source of this trash remains an unknown, its elimination is easy. After you discover lines which contain it, use MARGIN RELEASE and insert a blank space prior to the line. This should clear it up.

SUBJECTIVE EVALUATION

This author is a beginner in using microcomputers. MATRIX was the first experiment with utility programs. It took about three weeks to get a final mathematical keyboard design into operation. MATRIX was easy to learn and worked very well most of the time. I am pleased with my new characters and can make some mathematical expressions which would be totally impossible without MATRIX. I consider this one of the finest features of VALDOCS 2. ■

Disk of the Month

EC 18

This month's disk contains programming languages. It includes old favorites such as COBOL and variations of BASIC to relatively new languages such as FORTH and 'C'.

Each language is stored in an individual library file with accompanying documentation, example programs, and some also contain the source code to the language itself!

ALGOL - Short for "ALGOrithmic Language", ALGOL is a common programming language used on mainframe computers.

BASIC/5 - Short for "Beginners All purpose Symbolic Instruction Code", BASIC/5 is a BASIC interpreter intended to use only 5k of your system's memory space. Ironically, the program is 8k. This is a compact version of MBASIC.

COBOL - Short for "COmmon Business Oriented Language", COBOL is a scaled down version of the same language which was most commonly used in the '60's. Since many business programs were written in COBOL, there is still a high demand for programmers knowledgeable in COBOL.

FORTH-83 - This is a language that was created in the late 60's by a disgruntled astronomer who was dissatisfied with the programming languages of the day. FORTH is now a very popular language, most of Valdocs was written in FORTH.

SCI-11 - This is a "Small C Interpreter" based on a "Small C" compiler that is available in the public domain. 'C' is also a relatively new language developed by Bell Labs, and designed to make programming at the "operating system level" easier. This version is similar to MBASIC, thus, it is a helpful tool for MBASIC programmers who wish to learn 'C'.

TBASIC - Short for "Tiny BASIC," TBASIC is a very small version of BASIC. This is a good learning tool for beginners who wish to learn the BASIC language.

ZPILOT - This stands for "Z80 PILOT", a language developed as a learning tool. Although we couldn't find any documentation for this one, it does come with a nice demo program which can be studied to learn how to use PILOT.

These public domain programs are provided on a quality diskette and the price includes shipping, postage, and handling. **To order the Disk of the Month**, please send a check or money order for $15 to the EpsonConnection, Disk Service Department, P.O. Box 14227, Detroit, MI 48214. Please be sure to indicate the disk order number (EC-18) with your payment.

If you have a modem, these programs are also available from the Epconn SOCIS BBS at 313-823-1425, 24-hours, 7-days.

Disclaimer: All of the programs and documentation on this disk are known to be public domain and no warranties are expressed or implied. There are no guarantees with public domain software. All of the programs have been tested on the appropriate Epson Computer and are known to run. Public Domain programs are programs written by other users, for public use at little or no charge, other than that for handling, mailing and materials. **Note:** We imply no similarity, or advise any comparison, between public domain software and software that is commercially produced. A knowledge of CP/M and a library utility (LU3, DE-LBR or NULU) is recommended to utilize this software.

The Users

ONLINE MEDICAL INFORMATION

Western Reserve University of Cleveland, Ohio sponsors a unique kind of service; they provide free medical advice through a BBS system by the name of "St. Silicon's Hospital and Information Dispensary". This system runs on an Apple IIe with a 10M hard drive and a 300 baud modem. The St. Silicon BBS number is (216) 368-3888.

We left a personal medical question on the system and received a very professional reply within a couple of days. Upon request, they will send you an informative 10 page manual that describes most of the features of the system and how to use them.

This system is very busy, so, be prepared to let your modem auto-dial for up to 30 minutes before you get a connection.A very valuable service, and it's free!

VALDOCS TIP

If you don't have enough room on your A: disk for all the Valdocs functions you need, try moving a module or two to the data disk (drive B:).

For example, I have the CopyDisk function on all of my data disks under the new name Copy.sys. With that name, Valdocs treats it like any other applications program. To experiment, I also found that the editor worked nicely as an application on B: once I had renamed it Edit.sys. The Edit .ovl file must also accompany it.

The spreadsheet also worked until I pushed the Help key.

Once the files are transferred to the B: drive, it's no problem to call them up with a DefKey procedure. Even DefKey itself resides on all of my data disks.

Yours
Larry Lowenthal
Ft. Lauderdale, FL

PATCHING LOTUS 1-2-3 TO SUPPORT THE QX-16's SERIAL PORT

by Ed Urbina

The Lotus 1-2-3 printer driver does not support the serial port when it is used on the QX-16. However, by patching the driver (as explained below), you can access the computer's serial port.

The patch modifies the baud table to support the QX-16 timer, based on a 1 x 16 clock used on the serial 7201 chip. Modifications are inserted to talk to the QX-16 serial port hardware directly and the buffer empty and CDC signals are checked for protocol.

Note: This modification was tested on an HI-80 using the Hanzon serial board emulation for the HP7470 plotter and using an HP7475A serial interface plotter. No other peripherals were tested.

PATCH

The patch consists of running DEBUG on drive A and PR.DRV on drive B. Follow these steps:

1. Create a file named "123SRL.BAT" on drive A that contains the following:

```
debug < 123SRL.CMD
rem maximum suggested baud rate 9600
rem higher values are unpredictable
rem SERIAL PORT FOR THE QX-16 IS NOW COMPLETE
```

2. Create a file named "123SRL.CMD" on drive A that contains the following:

```
N B:PR.DRV
L
E153
6F 04 40 03 A0 01 D000 68 00 34 00 1A 00 0D00 06
E19B
50 B0 B6 E6 07 58 E6 06 88 E0 E6 06 EB 18
E1C7
50 B8 10 00 E6 13 E4 13 24 0C 3C 0C 75 F3 58 E6 11 B8 00 00 09 C0 C3
W
Q
```

3. To implement the patch, these files must be on drive A:

```
DEBUG.COM
123SRL.BAT
123SRL.CMD
```

A copy of the file PR.DRV must be on drive B: (Be sure to use a copy of the original PR.DRV to actually implement this patch. The same printer driver may not exist on a different version of Lotus 1-2-3. This modification is for version 1A.)

Then, at the A> prompt, type:
123SRL <RETURN>

When the driver has been successfully patched, the screen displays the three remarks you entered in the 123SRL.BAT file. ■

IGOR T.M.
Your On-Screen Business Calculator
43-Plus Keys, Two-Memory • Does trig, algebra, finances • Can run as Valdocs module • **Requires Valdocs + or 2.0, or TPM-III**
Only $19.95 (Includes shipping)

Tax Helper T.M.
Save hours of keyboarding IRS forms • Just plug in your numbers and get the bad news instantly • Run "what-if" scenarios for future years • **For use with Valdocs Spreadsheet**
Only $9.95 (Includes shipping)

SPECIAL PACKAGE PRICE — BOTH PROGRAMS $25.99
Specify QX model and keyboard on all orders

Call (509) 535-2219 or write to:
Grand Island
• MASTERCARD
• VISA
• MONEY ORDERS
Grand Island Productions • 2531 S. Magnolia • Spokane, WA 99203

Exploring MS-DOS 2.11

This is the second in our series of articles about the MS-DOS operating system. Last month we discussed some of the similarities between MS-DOS and CP/M, basic operating system concepts, and some of the basic MS-DOS commands widely used. In part II we will explore some of the more technical file handling, disk handling, system operation commands and programming tools.

Before we discuss these commands, there is an important concept that should be clarified. There are TWO primary types of commands available on your MS-DOS system: **internal** (sometimes referred to as 'resident') and **external** commands. **Internal commands** are built directly into the MS-DOS operating system, and are always available for use. **External commands** are not stored within MS-DOS, and can only be used if they are stored on a disk that is on-line with your system. In this article we will be discussing internal commands unless otherwise specified.

FILE HANDLING COMMANDS

REN is short for 'rename', a command that allows you to rename your files. The syntax is "REN oldname.ext newname.ext" (without quotes), where *oldname.ext* is the name of the existing file and *newname.ext* is the new name you wish to call the file.

TYPE will display the contents of an ASCII file. Actually, TYPE will display the contents of any file, however, if you try to perform this command on programs that are stored as machine code TYPE will display what appears as meaningless garbage and graphics characters. ASCII files are files that contain only ASCII codes, codes which include English language symbols such as the alphabet, the digits 0 through 9, punctuation, mathematical and a few other miscellaneous symbols. To view the contents of an ASCII file, the syntax is "TYPE filename.ext".

MORE is a supplemental utility to be used primarily with the TYPE command. If MORE is not used with TYPE, the TYPE program will scroll your file across the screen until it has reached the end of the file, or until you pause the display by pressing CTRL-S. If MORE is enabled with TYPE, then it will automatically pause the screen after the screen fills with data. Pressing any key will display the next page. To invoke the MORE utility with TYPE, the syntax is "TYPE filename.ext ¦ MORE". MORE can also be used with the DIR command by entering "DIR ¦ MORE". MORE is an *external command*.

PRINT is very similar to the TYPE command, except this command sends the contents of your ASCII file to your printer instead of the screen. PRINT does not send your file directly to the printer; first it stores it to a temporary file, or queue, on your disk where is will send the file to your printer as your computer allows. This permits you to use your computer even while it is printing data to your printer, a feature that was available only on larger multi-tasking systems until a few years ago. The syntax is "PRINT filename.ext". PRINT supports three parameter switches. See your MS-DOS manual for specific information concerning these switches. PRINT is an *external command*.

PART II

by Allen Howell

SORT is a handy utility that allows you to sort information in alphabetical order, ascending or descending. SORT can sort your data on any column you specify. See your MS-DOS manual for more specific information on these procedures. Sorted information is most commonly a disk file, but you may also sort your disk directories. To sort a disk file, the syntax is "SORT filename.ext". To sort a directory, the syntax is "DIR ¦ SORT". The MORE utility may also be used with the previous example, i.e., "DIR ¦ SORT ¦ MORE". SORT is also an external command.

Disk Handling Commands

Disk handling commands can vary widely among MS-DOS systems, as many computer manufacturers develop their own utilities for their own particular hardware. However, each variation eventually accomplishes the same goal: the formatting and copying of diskettes. All disk handling commands are *external commands*.

CHKDSK short for "check disk", is used to check and display the status of a disk (and system memory). If errors are found, you may re-run the program with an optional 'fix' parameter that attempts to restore your disk. The syntax is "CHKDSK d:". See your MS-DOS manual for more information on the CHKDSK command switches.

DISKCOPY is used to copy the entire contents of one diskette to another. Syntax is "DISKCOPY s: d:" where the first drive designator represents the source and the second designator represents the destination drive. If the drive designators are not entered, DISKCOPY will assume that you have a single drive system and will require you to swap your disks in and out until the copy is complete.

DISKCOMP short for "disk compare", is a utility that will compare the sectors of two diskettes, and can determine whether two disks are exact copies of each other. It is a good idea to use this command after you have made copies of any important diskettes. Syntax is the same as the DISKCOPY command.

SYS is a utility that allows you to transfer the MS-DOS operating system from one disk to another. SYS has some specific requirements, so you should refer to your MS-DOS manual for more details on this command.

Again, consult your manual for some of these procedures as filenames may vary on different MS-DOS computer systems.

System Operation Commands

System operation commands are generally utilities that allow you to set various printer and screen options, and to define the system environment.

CLS is a very simple DOS command that will clear your screen. Syntax is "CLS". CLS does not support any parameters. Although it is most commonly used within batch file processing, feel free to use CLS at any time to "clean up" your screen.

PATH is frequently misunderstood MS-DOS command. It is, in fact, one of the most useful commands. PATH allows you to define the areas of your system you wish MS-DOS to search when you enter commands that are not available on the drive or directory you are currently logged in. The syntax is "PATH pathname;pathname", where 'pathname' is the name of other drives or directories. Note that more than one path may be specified, however, they must be separated by semicolons when used with this command. A suggestion for newcomers to MS-DOS is to set your PATH so that your system will search the "A" drive automatically if you enter a command that is not stored on the "B" drive. Thus you will no longer need to enter the drive designator of command names that are stored on your "A" drive when you are logged into your "B" (or any other) drive. Enter "PATH A:\" to set your path to automatically search the "A" drive. We will cover more specifics of this command next month.

PROMPT is an interesting command in that it allows you to change your system prompt (usually "A>") to practically anything you like. You may set your prompt to display the date, time, the current directory, or the MS-DOS version number. To use these variables, please refer to your MS-DOS manual for a specific explanation. To set the prompt to any other constant symbol or line, use the syntax: "PROMPT string" where 'string' can be anything, such as "Your wish is my command: ", or "What next?". To set the prompt back to it's normal default setting, simply enter "PROMPT".

VERIFY is used to verify that all of your files are correctly written to disk. Your system will default with this setting off. If you wish to use it, the syntax is "VERIFY ON". If you wish to turn this feature off, enter "VERIFY OFF". If you aren't sure what mode it's in, simply enter "VERIFY" and MS-DOS will return with either 'VERIFY ON' or 'VERIFY OFF'. Although you may feel this option should always be used, be aware that disk write operations will be almost twice as slow when this option is ON. For best results, use this command only when you are using unreliable disks.

PROGRAMMING TOOLS

Since most MS-DOS users are not programmers, details of some of the programming tools will not be discussed. All of these programming tools are *external commands*. Briefly, DEBUG allows you to examine and alter the contents of your system's memory; EXE2BIN converts .EXE files to .COM files; and LINK combines object code program modules. If you are intrigued by the brief definitions of these commands, please refer to your manual for more information. The only utility worth describing in this category is EDLIN, a simple line editor that lets you edit and create ASCII files.

Unless you already know how to use an editor in MS-DOS that can store files as ASCII, it would be very beneficial for you to learn some basic EDLIN commands. For example, if you ever expand your system with memory or hard drives, you must

GET THE KEY TO SUCCESSFUL MONEY DECISIONS

Every profession has it's "Tools of the Trade."

In BUSINESS, the most important tool to have is a device which helps evaluate financial alternatives.

You already own the expensive part of that device, your Epson QX computer.

Equip your QX with The Financial Calculator and you will hold the key to successful money decision-making.

The choice is yours.

You can continue to make haphazard financial decisions
OR,
You can unlock the power stored inside your computer and begin making calculated, profitable financial decisions.

The Financial Calculator is the key.

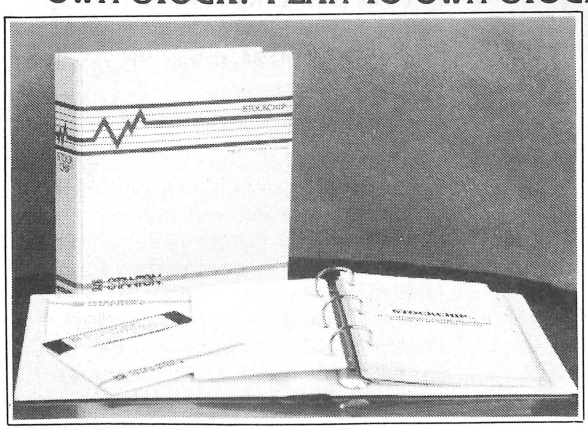
For your FREE Information Kit, write to:

COMPUDATA SYSTEMS
Suite 124
7719 Inversham Drive
Falls Church, VA 22042

Retail price: $69.95

STOCKCHIP

OWN STOCK? PLAN TO OWN STOCK? OWN AN IRA?



- Record all transactions
- Analyze performance
- Prepare complicated tax form entries even with difficult utility shares
- Project long/short term gain and loss
- Compute hypothetical buys and sells
- Maintain complete records
- Check bottom line profit and loss in a matter of seconds
- Generates 8 different reports
- Accepts up to 300 stocks
- Plus many other features
- Available on PC/MS-DOS and CP/M-80

For those who now own and for those who plan to own STOCK INVESTMENTS . . . Stanton Software offers a complete, comprehensive, and most of all . . . EASY TO USE, Stock Portfolio Management Program.

Quality Assured, thorough documentation, menu-driven

NOW AVAILABLE FOR ONLY

$89*

*Add $3.00 Shipping and Handling

TO ORDER Call 314-567-7482 or write to:

STANTON SOFTWARE • Box 28762 • St. Louis, Mo. 63146

MASTER CARD * VISA * MONEY ORDER * *SATISFACTION GUARANTEED*

STANTON™

know how to edit your CONFIG.SYS file to install the hardware device drivers. Also, many application programs such as dBase-III require you to edit this file to properly configure your program. In future issues when we discuss batch command processing an understanding of some type of editor will be required. Here is a brief example of how to use EDLIN.

To invoke EDLIN, enter "EDLIN filename.ext" where "filename.ext" is the name of the file you wish to create or modify. EDLIN will return with an "*" prompt. This is EDLIN's command prompt, where you may enter specific editing commands. Enter "I" to instruct EDLIN to enter the 'insert' mode. EDLIN returns with the number one followed by a colon. This tells you that you may now enter your text for line number one. Enter your text and press RETURN. EDLIN will now display the number two and another colon. Enter your second line. Each time you press RETURN, EDLIN will display the next consecutive line number for you to enter text. When you are finished entering your text, press CTRL-Z as the first character of the next line, press <CR> and EDLIN will return it's "*" prompt again. Enter "E" to save the file and to exit the program.

If you followed the above procedure on creating a file using EDLIN, and felt comfortable with it, then we recommend that you learn many of the other editing commands that are available. Again, please refer to your MS-DOS manual.

SUMMARY

This covers many of the remaining MS-DOS commands and utilities. There are a few others that were not discussed, either because they are too simple (such as DATE, TIME or VER) to require further explanation, or because they are commands that are rarely used by the typical user.

As mentioned earlier, many MS-DOS manufacturers provide their own utilities on their systems. For example, on Epson's Equity series computers, programs such as DU (disk utility), SETUP, XTREE, SETPRINT, and GRAFTABL are among many of the special utilities that you receive that are not a part of the standard set of utilities provided by Microsoft. Equity users should take advantage of these nice utilities, for they generally make operation of your system much easier.

Next month we'll explain the concept of the TREE structure, and explain many of the MS-DOS directory handling commands. This is mandatory reading for those who use a hard drive. Happy MS-DOSing to all. ■

Check Your MailBox — Central's Free 64 Page Catalog is Coming Next Month

Software Critics Agree

SmartKey dramatically speeds up and improves accuracy in computing by letting you reduce multiple keystrokes to the touch of a single key. Thousands of practical applications. Available for both CP/M and MSDOS computers. Works to speed up your computing even while operating other software. Very easy to use.

NEW!

SmartKey Combo Pak $49

—includes $15.95 book free

Screen Smarts, The Computer Tamer's Guide

Teach SmartKey to recall software commands, words, paragraphs, or entire pages of data at the touch of a key. Make a series of "smartkeys" out of most of the keys on your Epson. Store "smartkey" definitions in a special file. Call them up whenever you want to run a favorite program or work on a project. Imagine saving complex software command codes, boilerplate paragraphs, inventory numbers, or whatever, and then injecting any of them into your work with the stroke of a key. SmartKey will not interfere with the regular operation of your keyboard. Indeed, SmartKey improves your keyboard.

The Critics on SmartKey

- "Excellent..." *InfoWorld*
- "Works like a charm..." *MicroSystems*
- "A must for every computer..." Peter McWilliams, author *The Word Processing Book*
- "SmartKey is a utility I recommend... ...The result is less frustration and greater speed and accuracy in entering data." John D. Yoder, PhD *Reviewer — Epson Connection*
- "...SmartKey is considerably easier to learn ...SmartKey would be my choice..." Bob Hermann *Reviewer — Epson Connection*

Central's super priced **$49** *SmartKey* combo pak includes a free copy of Paul Golding's $15.95 book, *Screen Smarts, The Computer Tamer's Guide*. This book tells how you can use SmartKey to turn your computer into a supercharged mean machine. Order today to get this hard hitting software & book combo for only $49.

Software in Review

MTBasic. Basic compiler. Write and compile in basic that allows you to program windows. Do multi-processing. All this on your CP/M Epson. Rave reviews. Low Price. $47.

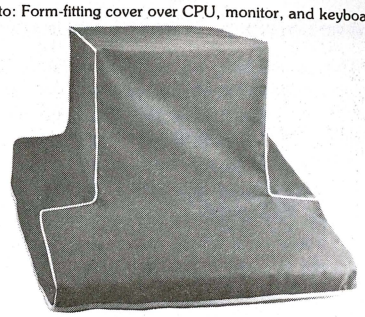
Decision Analyst. Helps you make decisions where from 2 to 12 alternatives exist. Can save a business or build one. Professional printed reports. Powerful helper. Use it to make difficult career decisions too. Decision Analyst makes complex decision making easier. Consultants charge hefty fees for doing what this program does automatically. Comes with complete manual and tutorial. $139.

Word Finder. Puts 90,000 synonyms at your fingertips. Works from within WordStar. Imagine writing feverishly. Place your cursor on a word that you want a synonym for. Hit the escape key twice. A list of synonyms instantly appears along top of screen. Place the cursor on the word you want to see in your file. Hit the return key. The word in top of the screen automatically replaces the word in your file automatically. Right before your eyes. Incredible. Priced right too. $69.

DateStamper. Date and time stamp all your CP/M files. You'll know exactly when you last worked a file. Keeps the confusion down. Helps to organize your record keeping. DateStamper can help you prove to the IRS that you use your computer in business. $44.

Introducing A Classic Form Fitting Epson Cover

Photo: Form-fitting cover over CPU, monitor, and keyboard.



At last, the classic Epson dust cover you'll be proud to own and use. This first rate computer cover is made from a premium, lint free, static free, washable, free breathing, and fade resistant sailcloth. It comes in a rich looking Navy blue or Sand. The Navy cover has a smart contrasting silver gray piping and trim that adds a superior finished look. Not to be outdone, the Sand cover is handsomely finished in a rich chocolate piping and trim.

Matching sailcloth covers for all Epson and ComRiter printers: $15.95. Please indicate make and model of printer.
New. Special 2-piece QX-10 cover: $21.95 per set.

For a limited time only, your price for this factory direct, custom made, one-piece sailcloth Quality Cover is $18.95. When ordering remember to indicate color preference. This special low price is subject to change. You must be completely satisfied with your purchase of this cover or we will refund your money immediately. Order today.

- Quality tailoring
- Easy care fabrics
- Attractive colors
- Professional appeal

Richly tailored inside and out. Look inside any of our Quality Covers; see the ultimate finishing; we use machines that sew with 3 needles so that edges will not unravel or shed lint. We stress perfection because you deserve the best. Compare for long-lasting satisfaction.

FACTORY DIRECT

Letter Quality

Say goodbye to correspondence qual
high-resolution, proportionally spa
Font provides fonts in sizes from
Roman, Bold, Italic, Script, Old En
low-cost Epson (MX, RX, FX) and
Font is an easy-to-use software pa
compatible systems; no special hardv

Actual sample produced by an MX-80 and Fancy Font.

Incredible Printing Machine

Your Epson printer is going to get even better. *Fancy Font* can make it into an incredible printing machine. The *Fancy Font System* is a software program that turns the bits and bytes generated by your computer into over 30 font sets in sizes from 8 to 40 points that can be printed on any Epson MX80 with Graftrax, Epson FX or RX printer, or Gemini 10X printer.

Fancy Font styles include Roman, Bold, Italic, Script, Old English, and more. In addition, custom forms, invoices, labels, signs, foreign languages, mathematical notations, view graphs, resumes, newsletters, brochures, complete manuals, invitations, place cards, and high-resolution, proportionally spaced, letter quality business and personal letters can all be printed on your Epson printer with *Fancy Font* at the helm. *Fancy Font* is a product of SoftCraft Inc. You may have seen SoftCraft's national ads. They are printed with *Fancy Font* on an Epson printer. The ad is powerful visual medicine. The list price for the fully documented *Fancy Font System 2.0* is $180. Central's price is only $149. Order *Fancy Font* today and add an amazing sparkle of creativity to all your printed materials. Please indicate name and model of your printer when ordering. *Fancy Font* will make your Epson printer and Valdocs or CP/M word processor come alive. It's magical.

Titan QX-PC2 Closeout Sale

MORE ON NEXT PAGE

During the last two months Central Computer has sold hundreds of Titan Technologies' IBM PC compatible QX-PC2 boards and expansion memory boards. Since, Titan Technologies announced they stopped production of these boards forever — they've been flying out of here like hot cakes. In December, Central Computer bought all of Titan's remaining QX- PC2 stock.

By the time you see this, there may not be any of these great Titan boards left. If there are, these are our current prices. Remember, once these are gone — there will be no more. That's it. This may be our last announcement of the sale of Titan QX-PC2 and auxiliary boards. Please order today to get up to $78 of great Titan software absolutely free. Order today.

Titan Titan

QX-PC2 IBM PC Compatible Co-Processor

Description	List	Central
256K QXPC2	$670.00	$395.00†
512K QXPC2	$995.00	$589.00‡
256K Aux Memory	$399.00	$225.00
Ram Disk Software	$ 39.00	$ 36.00
Printer Buffer Software	$ 39.00	$ 36.00

† Order the 256K QX-PC2, and receive your choice of either the Printer Buffer or Ram Disk Software free. Please specify choice.

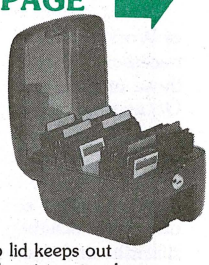
‡ Order the 512K QX-PC2 board or the 256K auxiliary memory board, and receive both the Ram Disk and Printer Buffer software free.

— All units include full 12 month factory warranty.

Attention: The QX-PC2 snaps into your QX-10 to turn it into an IBM PC compatible computer. Includes 5 Mhz processor. Operates MSDOS and PCDOS software. Supports hard disk. Comes with MSDOS 2.11 operating system. Full 256K ram. Includes complete operating manuals. Quantities limited. Offer subject to change without notice.

Titan is a registered trademark of Titan Technologies, Inc.
QX-PC is a trademark of Titan Technologies, Inc.

Lockable Diskette Defender



Handsome, sturdy, smoke-tinted acrylic tray holds 70 Epson-size diskettes. Flip-up lid keeps out dust, debris, and moisture, and locks securely to guard your important work. Comes with 7 dividers with index tabs for easy filing and to keep floppies upright to prevent bending, warping, and scratching. Tough and secure metal lock never comes in contact with diskettes because it is enclosed in a special plastic housing. Super value at $22.95 for one, or $21.00 each if you buy 2 or more. Keep prying eyes and sticky fingers away from your data. Order today.

LQ 1500 Users

Compare and save. Epson's LQ 1500 ribbon gives you 3,000,000 characters. Our top quality LQ 1500 ribbon produces 4,500,000 characters. Epson's list price is $17.50 per ribbon. Our price is $49 for box of six ribbons. In stock. Order today. Complete Satisfaction Guaranteed.

Radiation Screen And Revealing Free Report

The controversy rages. It's true. Your computer screen does shoot out dangerous ionizing x-ray radiation. Some people say, the emissions are harmless. Others say there is no such thing as harmless ionizing radiation.

So what's the problem? Simple. People are different. Some care about being safe, some don't. Here's the whole truth. You decide how you want to handle it.

The Apparent Danger

Most Video display terminals (VDTs) are cathode ray tube terminals. In this type of terminal, ionizing radiation is produced by a cathode ray tube. The cathode ray shoots electrons towards a phosphor-coated screen. The phosphors energized by the electron beam emit light that creates the display image.

This activity produces many types of radiation. One of the most dangerous is ionizing x-radiation.

Hospitals use x-radiation to take pictures of the inside of your body. Dentists use it to look through your face at your teeth. The important thing is, when these professionals work, they stand behind lead impregnated shields.

Doctors know that the effects of exposure to the high photon energy of ionizing x-radiation are cummulative. They don't wear off. Bit by bit, they keep piling on. Too much exposure can lead to radical molecular changes. The kind of changes in the body that express themselves in cancer.

Shocking Statistics

If you're a computer user, the question is, "Do I have to protect myself from the x-radiation that shoots at me from my video display terminal?"

Good question. At this time, the government says, "No." However, remember that things change. The government said yes to smoking for years. Now they say, "No." The truth is, as far as video display terminals are concerned studies aren't conclusive.

Some groups such as the National Association of Working Women, believe much more study is necessary. They point to shocking statistics like those uncovered by the National Institute for Occupational Safety and Health, in which they found that half of the 48 pregnancies among VDT operators at the United Airlines reservations office in San Francisco between 1979 and 1984 ended in miscarriages, birth defects, or other abnormal outcomes including two premature births, one stillbirth, and one neonatal death. Some say it's coincidence, others say it's scary.

Low Cost Solution

Look at this. You can't protect yourself from all ionizing radiation. It's impossible. In fact, depending on where you live and even what kind of structure you live in, you're being exposed everyday to a natural level of background radiation.

However, the experts agree. You must do everything you can to limit your exposure to ionizing x-radiation.

If you're a computer user, the solution isn't to throw your computer out the window. Cars make smog, but you're not going to toss out your car because it smokes a little. Your car has a smog filter, so why not put a radiation "filter" on your computer?

It's easy to protect yourself against the ionizing x-radiation that shoots out at you from your video display terminal. A company called ACCO International makes an excellent combination lead impregnated radiation shield and anti-glare screen that easily attaches to your terminal. It works.

Acco Lead Shield

This lead impregnated, impact-resistant acrylic shield is like the ones used in hospitals, military installations, and nuclear power plants. It is 30% lead. But you can see through it. It also has a mesh-type anti-glare screen that actually improves the screen image while getting rid of glare. It costs more than a regular anti-glare screen, that's because it protects you from the x-rays that shoot out at you from your computer screen. Helps get rid of burning, watery eyes, and other symptoms of VDT associated eye-fatigue too. Find out why in a special report you'll receive free with your radiation screen.

Revealing Independent Study

In April 1984, ACCO International commissioned a hands-off independent study on their shield. At this time, few people know about this study. It was performed by Health Physics Associates, LTD., consultants in radiation safety. They're located in Northbrook, Illinois.

Health Physics Associates were asked to do an extensive test of the radiation screen. ACCO said, "Put it through the wringer."

The results of the tests are interesting. Foremost, because they prove the ACCO shield works. But, also, they prove that when you buy an ACCO radiation shield, you don't have to worry about getting a bad one. In fact, all three batches of ACCO Radiation Shields that were tested gave the same results. They were found to possess similar transmission or attenuation characteristics and similar lead contents. That means, when you buy an ACCO Radiation Shield, it protects you. Period.

Health Physics Associates reported that, "The ACCO Radiation Shield provided attenuation in excess of 8000 for x-rays incidents upon it at 10, 20, and 30 KVP." This means that for every 1,000,000 x-rays that your VDT shoots at you, only 125 will pass through the ACCO Shield.

Unfortunately, tests were not conducted on the anti-glare characteristics of this unusual screen. However, the fact is, the ACCO Radiation shield is both a very effective radiation shield and anti-glare screen. You don't sacrifice one for the other here. You'll find that as an anti-glare screen, it's as good or better than any other on the market. In fact, it appears to actually enhance and make the image on the screen clearer.

Sample of Corresponding Sizes

A. Portables: Compaq, IBM, Kaypro, Seequa. Specify.

B. Compaq Deskpro. DEC PC. HP 100PC, HP 200PC, HP 80, 75. Honeywell 7200, 7300, 7801, Infowriter. IBM PC mono, Datamaster, Displaywriter, 3101, 8775. Lanier Easy. NBI 4000. NRC 7900. Wang PC-PM004. Zenith Z100, Z19, Z29, Z89, Z90.

C. AT&T 6300 PC, Burroughs TD8000. DEC VT100. Epson QX-10. Hastech Edit3. Hazeltine Esprit.

D. AT&T 5420. Altos 186, 486. Data General 6255. Digital VT240. Four Phase 5115. IBM PC 5154 Color. Micro Data 1000. NCR Unix. Radio Shack TRS-80 I, II, III. Zenith ZT-1.

E. ADDS Regent 20, 25, 30, 40, 60, Viewpoint 3A, 60, 90. Apple II, III. Burroughs B20. Hastech Edit 8, Magician. HP 264x, HP 86. IBM 3279 Color, 5151, 5153, 5291. NEC Color. TI OPTI 900. Wangwriter. Wang Ergo II, III, Wang 5200, 5300, 5700, 5800, 5900, TC-5900, 6300, 6340, Wang 2336 DW, 2885 DE, 2886 DW. Xerox 860, 820. Zenith ZVM 134.

F. CPT 8100, 8500. Hastech Edit 8, PTL Graphic, 4/Sight. HP 262x, HP 9836 desktop. IBM 3278. Phillips MICOM 3000.

** If your computer is not listed or you need further information, please call (805) 524-4189 for assistance. We have sizes to fit more than 500 computer VDTs. **

Easy Installation

If you spend long hours at a terminal day after day, you deserve not to worry about the possible health hazards of over exposure to the x-radiation that comes from your video display. But, before making a decision for or against this radiation screen, think about how long it took for government studies to find that smoking was a health hazard, and to press the tobacco industry to warn about the danger. By then, millions had developed cancers and other equally vicious diseases related to smoking.

As one investigator on the hazards of VDT radiation put it, "To take the industry position that we should not provide precautionary measures until further research is complete is irresponsible." Sometimes, it's better to be safe than sorry.

Depending on the size of your terminal, your ACCO Radiation Shield will weigh one or more pounds. This solid weight proves the quality and insures good attenuation. The shield attaches to the outside of your computer's screen with a couple of strips of velcro tape. There's nothing to screw in, so you don't need any tools to put it on. It's easy to remove too. Just pull it off. Simple. By the way, although this transparent acrylic screen contains 30% lead by weight, it's easy to see through.

Attenuation

As applied to x-rays, attenuation refers to the loss of photons in the passage of radiation through a material like a lead impregnated transparent shield as a result of absorption and scattering by the Compton, photoelectric, and pair production effect. The pair production effect, for example, is the process whereby an x-ray photon in passing through the nucleus of an atom is converted into a positive electron and a negative electron. As a result, the dangerous quantum or high energy x-ray photon ceases to exist.

Money Back Guarantee

Ok. Those are the facts. Now, it's up to you. You can choose to start protecting yourself now, or think about it some more. In either case, you don't risk a thing by trying out this screen. It does everything claimed here. That's why Central Computer offers a 30 day money back guarantee on this tested product. You must be completely satisfied, or simply return it for a full refund. By the way, with your order you'll also receive a free copy of the complete report submitted to ACCO by Health Physics Associates. It's a little technical, but it proves the ACCO Radiation Shield is the best there is. Guaranteed. Order today.

Attention: There is nothing in this ad that has been over or understated. These are the facts. The question of possible health injury is so severe that major universities and health services are in the midst of extended studies. Unfortunately, these studies are just beginning and will last four or more years. Meanwhile, consider that working at a VDT is like holding your face about 18 inches from a television screen many hours a day, five days a week. Protection makes sense. Order today.

ACCO RADIATION SCREEN GUIDE

Screen Size (inches)	List Price	Central
A. ☐ Compaq, Kaypro etc.	$139 each	$99
B. ☐ 7 7/8 x 10 15/16	$149 each	$99
C. ☐ 8 1/8 x 10 11/16	$149 each	$99
D. ☐ 8 3/8 x 11 5/16	$149 each	$99
E. ☐ 8 7/8 x 12 1/16	$169 each	$119
F. ☐ 9 1/4 x 12 11/16	$169 each	$119

To order by mail use coupon on facing page. Specify computer model and or name of terminal.

Order Toll Free

© 1986 Central Computer Products

Toll Free Order Desk
800-533-8049 USA
800-624-5628 CA

Check Your MailBox — Central's Free 64 Page Catalog is Coming Next Month

CP/M Prod. Description		List	Central
QX-10 Software			
ASHTON TATE			
dBase II		$495.00	$329.00
ATI TRAINING DISKS			
CP/M		$ 39.95	$ 33.00
MBasic	Training software.	$ 39.95	$ 33.00
Multiplan	Speeds learning.	$ 75.00	$ 54.00
SuperCalc	Gives fast results.	$ 75.00	$ 54.00
Wordstar		$ 75.00	$ 54.00
BORLAND INTERNATIONAL			
Turbo Pascal 3.0		$ 69.95	$ 58.00
Turbo Toolbox, Software Tools		$ 54.95	$ 44.00
Turbo Tutor, Step by Step		$ 34.95	$ 32.00
CDE SOFTWARE			
Checks & Balances 3.4		$ 74.95	$ 64.00
CHUCK ATKINSON PROGRAMS			
Quick Check Plus AR		$195.00	$155.00
CONSULTANT SYSTEMS			
The Real Estate Consultant with The Creative Loan Consultant		$399.00	$349.00
Don't buy or sell property without this software			
DIGITAL MARKETING/PRO TEM			
Bibliography		$ 99.00	$ 89.00
Hyper Typer, Typing Tutor		$ 39.95	$ 32.00
Milestone, Project Manager		$ 99.00	$ 89.00
Random House Speller		$ 50.00	$ 47.00
— Call for WordStar enhancing DM/PT products			
FYI, INC.			
FYI 3000		$395.00	$295.00
INFOCOM			
Zork I		$ 39.95	$ 37.00
Zork II & III each		$ 44.95	$ 42.95
PlanetFall		$ 39.95	$ 37.00
Witness		$ 39.95	$ 37.00
— all other Infocom series, call for prices			
MICRONOVA	NEW		
FontStar, Print Bright WordStar		$ 49.00	$ 44.00
MICROPRO			
WordStar		$495.00	$219.00
Mail Merge		$ 99.00	$ 89.00
MICROSOFT			
MultiPlan		$195.00	$139.00
MBasic Compiler		$395.00	$299.00
MICROSOLUTIONS			
Uniform		$ 69.95	$ 57.00
reads & writes 80+ computer formats & MSDOS			
OASIS SYSTEMS			
The Word Plus		$150.00	$105.00
Punctuation and Style		$125.00	$ 95.00
PEARLSOFT			
Personal Pearl		$295.00	$125.00
QUIC-N-EASY PROD.			
Q-Pro-4		$595.00	$395.00
Data base manager with multikey file indexing			
SAN FRANCISCO COMP			
Power! CP/M Tamer		$169.00	$ 94.00
DocuPower!		$169.00	$ 94.00
SOFTWARE TOOLWORKS			
Eliza		$ 24.95	$ 23.00
Word Wiggle		$ 29.95	$ 28.00
MyChess		$ 34.95	$ 28.00
Reading Professor, Speed Read		$ 59.95	$ 57.00
— all other Toolworks programs, call for prices			
SORCIM			
SuperCalc 2		$295.00	$228.00
TELION SOFTWARE			
Free Filer		$ 49.95	$ 46.00
Language Tutor	NEW	$ 49.95	$ 46.00
Memory Trainer		$ 49.95	$ 46.00
WRITING CONSULTANTS			
Word Finder, 90,000 Synonyms		$124.00	$ 69.00
STAR SYSTEMS			
The Accounting Partner (TAP)		$395.00	$262.00
Accounting Partner Integrated		$795.00	$529.00
Upgrade TAP to TAP Integrated		$400.00	$343.00
Supplies			
3M DSDD Diskettes		10/box	$23.00
3M Head Cleaning Kit		$ 32.00	$ 21.00
Dysan DSDD Diskettes		10/box	$ 34.00
PowerMax, 250 Watt UPS		$459.00	$399.00
Finger Print "Letter Writer"		$ 79.95	$ 74.00
QX-10 User's Guide, Hansen		$ 17.95	$ 15.95
Screen Smarts, Computer Tamer		$ 15.95	$ 12.95

Prices, specifications, and offers subject to change without notice.

Money Management is the Price You Pay for Success

Computers crunch numbers. It's that simple. If you're not using your computer to manage your money, you're missing a chance to put pencil-sharp accounting skills at your fingertips. Chuck Atkinson's **Quick Check** software program is a home and small business money manager so easy to use that if you can push a key it will help you computerize your checkbook.

Quick Check tells you exactly where your hard-earned money goes. *Quick Check* lets you set up your own expense and income codes, or use built-in codes, so you can start entering checks and deposits immediately. You don't have to know about accounting to use *Quick Check*. This common sense program gives you instant fingertip access to a wide range of information about your income and expenses. Single keystroke commands help you pay bills, keep track of deductible and non-deductible items, correct mistakes, change dates, and reconcile your checkbook. This program even prints checks and addresses them automatically. *Quick Check* is written in CB80 native code. It is fast, accurate, and forgiving. No slowdown for sorting.

Home and small business accounting can't get any easier than this. Please don't spend another moment thinking about computerizing your checkbook. You can start getting that checkbook in shape now. The list price of *Quick Check* is $95. Central's current price is $79. Order today.

Attention: The rewards of using *Quick Check* include saving time, money, work, discomfort, and worry about your money. *Quick Check* is absolutely the easiest full-featured money manager, check printer, and budget organizer available. Bar none.

Text Filing Machine

Now, Epson users can turn their computers into powerful text filing machines. *SuperFile* is a textual matter database manager unlike any other. It puts you in control of your information. It allows you to easily store and retrieve notes, letters, random thoughts, contracts, depositions, invoices, new product information, sales reports, reference articles, scripts, abstracts, bibliographies, customer profiles, photo or slide locations, and much more. *SuperFile* accepts as many as 65,000 entries per database; allows 512,000 keystrokes per record, each of which can have up to 250 keywords; and indexes information you've stored on as many as 255 diskettes per database. Powerful.

Input for a *SuperFile* database comes from your word processing Valdocs, CP/M, or MSDOS program, so you can easily include information you already have into a database without having to re-key it. No fancy fields to define. This is a completely free-form database system. No programming language to learn. There's nothing difficult here. You can be up and running within minutes. *SuperFile* uses logical searching procedures to find your information fast. Tell *SuperFile* what information you want, and it searches from 60 to 400 entries per second. Save yourself the time and effort of filing and cross-filing information by hand or in overly structured data fields. The list price of *SuperFile* is $195. Order today to get *SuperFile* at our current low price of $155.

Full Power Computing

T/Maker Integrated is a highly acclaimed powerhouse program that can turn your CP/M Epson into a computing workhorse. At last, you can enjoy productive computing like never before. Imagine doing full-featured word processing, relational database management, spreadsheet analysis, horizontal bar chart graphics, and checking your spelling all within the same program. No more switching back and forth between barely compatible programs to accomplish these simple tasks. *T/Maker Integrated* is universally acknowledged as a unique integrated software system that is just plain easy to learn. Now, there is an alternative to doing things the hard way. *T/Maker* can put the hidden and largely untapped power of your Epson at your command. *T/Maker Integrated* is regularly $450. Central is proud to offer this outstanding package for the low, low introductory price of $189. Yes, this includes the entire feature-packed T/Maker package, so please treat yourself to this excellent super productive software today. Experience the power of true software integration on your Epson. Order T/Maker today. Offer may not repeat, so order now.

Central Computer Products

Consult the Oracle

NEW!

Wow! The *I Ching* on computer. There's nothing like it. This great self-reflection aid can help you get in touch with your subsconscious mind. The *I Ching* or *Book of Change* is not a party game. But it's highly entertaining. Ask it for advice and receive it in seconds. Amazing.

The *I Ching* or *Book of Change* seems to give you the ability to peer into the future. Helps you see where you've been and where certain courses of action could take you. In this sense, the *I Ching* is like a trusted oracle. Someone to consult in time of need. You'll marvel at the I Ching's depth. It's both mysterious and practical. If you've had contact with the *I Ching* before, you'll find this software faithful to the original manuscript. The only difference is you consult this program through touching the spacebar to develop your hexagrams. Very easy to use. The list price of Software Country's *I Ching* or *Book of Change* program is $39. Central's price is $36. Order today to get fast.

CENTRAL COMPUTER PRODUCTS
330 Central Avenue, Dept. R1
Fillmore, California 93015
(805) 524-4189

Dear Central,

Please send me the items listed below. I want fast friendly service. If I have ordered a radiation screen, remember to send me my free copy of the Health Physics Associates report. My check, money order, or credit card number is enclosed. Thank you.

Description	Price

Epson Model _____ Sub Total _____

CA Resident 6% Tax _____

FIRM MONEY BACK GUARANTEE ORDER WITH CONFIDENCE

Postage & Handling $ 3.00

Total $ _____

☐ Navy blue Cover ☐ Send free catalog
☐ Check enclosed ☐ Money Order enclosed
☐ Visa/Mastercard # _____
☐ AmerExp Card # _____
Exp. Date _____ Sig. _____
Day Phone: ( ) _____
Name _____
Address _____
City _____ State _____ Zip _____

Credit card phone orders accepted. **Call Toll Free.**
To order by mail use coupon, letter, or photo copy. Thank you.

© 1986 Central Computer Products

Modem DIP Switches

by EpsonConnection Staff

These are a few of the most common modem DIP switch settings for external modems connected to the QX-10/16. Note that these settings are the most common for typical modem users.

1) **Data Terminal Ready (DTR) -**
This switch should be in the off position. The state of this switch is usually determined by the Terminal Ready LED (Light Emitting Diode). If your TR LED lights up only after your computer boots up, then the setting is correct.

2) **Verbal/Numeric result codes -**
This is usually set to VERBAL, unless your communication program only recognizes numeric result codes.

3) **Result code display -**
Set this switch so that the result codes will be displayed by the modem. Such messages as: connected, disconnected, connect 1200, ring..ring., etc.

4) **Modem Echo (off-line commands) -**
Usually set to ON so that you can see what you are typing 'echoed' on-screen.

5) **Auto Answer -**
Set to OFF unless you are allowing other computers to call into your system. Note that many host (or BYE programs) do NOT require this switch to be set, as the program will usually set this switch through a software command. Valdocs controls this through software, so it should be OFF.

6) **RS-232 Carrier detect -**
Almost always set to OFF, so the modem can signal the computer when a connection is in process.

7) **Single/Multi-line Installation -**
This is usually set to single line jack (RJ11 jack). Set it to Multi-line if you use the RJ12 or RJ13 connector.

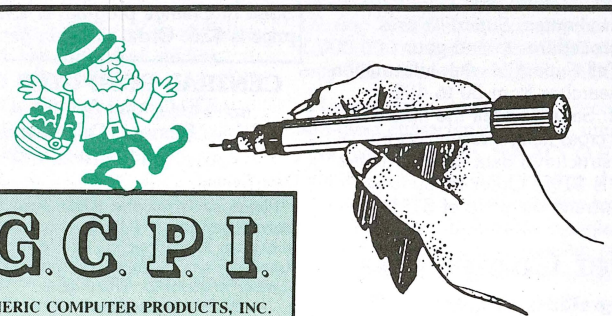
8) **'AT' Command Set Recognition -**
Almost always enabled.

9 and 10) **Not Used.**

To summarize, the equivalent settings for these modems are:

MODEM	DIP - 1	2	3	4	5	6	7	8	9	10
Hayes 1200 & Qubie	U	U	D	U	D	U	U	D		
US Robotics Courier 2400	U	U	D	U	D	U	U	D	U	
Prometheus Promodem	U	U	U	U	D	U	D	D	D	D

** U indicates ON (Up) position, and D for OFF (Down)* ■



G.C.P.I.
GENERIC COMPUTER PRODUCTS, INC.
COMPUTER PRODUCTS YOU CAN RELY ON

P.O. BOX 790 - DEPT. 36Q
MARQUETTE, MICH. 49855

A LUCKY SALE
. . . drawn up especially for YOU!

Software available for EPSON QX-10, EPSON EQUITY and other EPSON models.

Add $3.00 for shipping/handling for all orders and 4% sales tax for Michigan residents. Specify computer model and operating system when ordering.

master charge THE INTERBANK CARD

For Faster Delivery Call 906-249-9801

VISA

ORDER NOW . . . CLIP A COUPON AND SAVE. LIMITED TIME OFFER-

$99
FINANCIAL-PAK
★ **Amortization and Loan Analysis**
★ **Lump Sum and Annuity Analysis**
★ **Stock and Mutual Fund Buy/Sell Aid**
All 3 for only
$99
Now get the most commonly needed financial software at the lowest price!
You save $50 off the regular list price!

$49.95
FLOPPY-DISK ORGANIZER-PAK
ARCHIVE - Allows you to back up groups of files under one file name. Also compresses information to save disk space!
CATALOG-MASTER - Now get a master directory for all your floppies on one report. Finding any file is now fast and easy!
Get both of these popular disk utilities now and save $25 off the regular price.

$99
FILE-BASE
You get a truly easy-to-use file information manager with surprising features and power. Compatible with most other popular programs including dBASE II, WordStar, and BASIC.
Now save $26 off the regular list price.

$299
DEPRECIATION-MASTER II V4.0
A complete fixed-assets accounting program. Handles all IRS methods including ACRS. Several report formats including Tax Form 4562. Now ***save $50*** off the regular list price. No business should be without this program!

True BASIC

The Way BASIC Should Be

by David Crotty

The process of writing a program using a computer programming language often reveals more about the character of the programmer than of the language in use. This is certainly the case when any of the various forms of BASIC are in use. However, the nature of the language has an overriding influence on the way a work is designed and executed. The BASIC language, as implemented for microcomputers, has suffered from some bad press over the years. I've been guilty of finding fault with BASIC myself. At the same time, people who use BASIC regularly wouldn't have it any other way, an observation that is well stated by Richard Aarons [1] in a recent discussion of several BASIC systems. In that light we approach the delicate subject of programming philosophy.

True BASIC is a system that has been written as a matter of principle. The authors, John G. Kemeny and Thomas E. Kurtz [2], originated BASIC at Dartmouth College in 1963 as part of one of the very first time-share terminal systems on a college campus. Their BASIC was designed for a mainframe computer with a large memory capacity. As BASIC began to be implemented on the first microcomputers which had very restricted memory, the texture changed too. The language developed away from the original design. The authors decided to right this terrible wrong after suffering silently all these years, and they present a system that follows their own philosophy. The point to be made is one of structure.

In my own experience in writing small and medium sized programs in BASIC or FORTRAN I was aware of an uneasy feeling that was difficult to describe. As a text would grow longer and the program more complicated, it would become increasingly difficult to deal with bugs and to include additional features in the program. I would segregate various parts of the program according to function, by assigning line number blocks, however it seemed there were never enough line numbers and in re-numbering the text the number block assignments were lost. The versions of FORTRAN that I used, so long ago, had subroutines that stood alone with their own variables and passed just a few variables back to the main program, but these were missing in the BASIC versions I came to use. When Borland International brought out Turbo Pascal at a price I could live with a friend convinced me to try Pascal. With that system I began to use procedures to segregate each individual functional part of the program. New functions could easily be added to the program by writing a new procedure. The CASE statement made it easy to insert all the program's functions in a main program and have the user make a selection from a command line. Although all of these things could be accomplished in BASIC it was just a whole lot easier to write it with Pascal. Of course, the best part of Turbo Pascal was the excellent full screen editor (I loathe the MBASIC line editor) and the automatic compilation features.

If the *True BASIC* package were just one more package with structure added there might not be so much reason to be interested. After all, MicroSoft BASIC has been around for a long time and is available for every computer, even if there are slight differences in the implementation from one computer to another. Jerry Pournelle, the wild man at BYTE, recently took *True BASIC* in hand [3] without reading the instructions and proceeded to rail in his own inimitable way at anyone who might mess with the beauty of BASIC. *True BASIC* is different. Jerry didn't put the little overlay card over his function keys so he couldn't figure out how to move from the command window to the editing window, make a backup copy by using the COPY command on the IBM PC, which fails to copy sub-directories (the help files are in a sub-directory), or find that <ctrl> C doesn't stop a program (*True BASIC* uses <ctrl> SCROLL LOCK), and hated the licensing agreement (he takes licensing agreements very seriously). You will probably see a milder Jerry in BYTE by the time you read this. Another review in BYTE by Michael Vose was more positive [4].

The point is that *True BASIC* is different because the writers thought it should be that way. They call the current versions of BASIC "Street BASIC" and set out to correct what they see as problems. The first item on the agenda must have been the manual. *True BASIC* arrives with two large manuals, the Users Guide which contains instructions for using the system with the computer in use (I have the IBM-PC version) and a basic tutorial, and the Reference Manual with complete documentation of the language.

The second agenda item must have been the editor. The early implementations of BASIC on mainframe computers certainly didn't have full screen editors. The primitive line editor was the only mechanism available to correct or change a line. Line numbers were important because the line editor needed them to find the line that was to be changed. When BASIC migrated to the microcomputer it took the line editor with it almost unchanged. The line editor did not magically vanish as it should have with the advent of the word processing revolution. True BASIC may not be the only BASIC system with a full screen editor (Hewlett Packard BASIC has a limited editor for example) but this feature is very rare. The *True BASIC* editor has all of the features you might come to expect in a screen editor, however they aren't implemented exactly as one might expect from experience

with other editors. While Turbo Pascal's editor emulates WordStar, *True BASIC* has its own unique system. You have to read the manual.

Portability might have been the next item on the agenda. The authors indicate that all versions of *True BASIC* will be identical. The system at this writing is only available for the IBM-PC, with the Apple Macintosh promised soon. The User's Guide for the IBM-PC contains directions that are specific for the IBM MS-DOS environment. Since graphics are built into the True BASIC system the authors have hesitated in porting it to generic MS-DOS where there is no standard for graphics. Again, since different machines address the serial port differently, the system does not support the serial RS-232 port. The user may provide an assembly language driver for the serial port if desired.

Finally, the system provides a compiler that reduces the code to a pseudo machine code so that the program executes faster than normal interpretative BASIC. An advantage to this is that the program finds syntax errors during compilation and before the program is executed. With interpretative systems the syntax error will not be found until the program has come to that particular line. That could take a long time. The compiler does not provide stand-alone .COM files. The compiled file must be run within the *True BASIC* environment. A linker is available that prepares independent .COM files but the price is high. However, a compiled program is secure from tampering and users cannot easily determine how the program was written.

SUPPORT

YOUR

LOCAL

DEALER

The *True BASIC* Editor

The *True BASIC* system disc contains a number of sample programs and one COM file, HELLO.COM. Typing HELLO from the A> prompt loads the *True BASIC* system. To keep things consistent, typing BYE from *True BASIC* drops control back to the system.

The screen is divided into two windows, the program window at the top of the screen where the program is displayed and written, and the command window (sometimes referred to as the History Window) where commands are entered. The cursor may be moved between the two windows using the F1 and F2 function keys. An overlay card is provided that fits around the IBM-PC function keys (but of course doesn't fit the HASCI keyboard) to identify the function assignments. These functions are listed as follows:

Function Key Operation

F1	Editing Window
F2	History Window
F3	Find text
F4	Mark text
F5	Copy text
F6	Move text
F7	Restore last line changed
F9	Run the program
F10	Help

The size of the two windows may be changed as desired as long as the smaller window has at least one line. Arrow and delete keys perform their normal functions as do the Home, PgDn (page down), PgUp (page up), and End keys on the number keypad. The history window is also scrolled by the arrow and page keys to view output that has disappeared from view.

Program Writing With *True BASIC*

Writing a BASIC program using the *True BASIC* system is much as it is with other systems. Line numbers are optional and there doesn't seem to be an AUTO command to automatically provide a line number for each line. The LET command, which is optional for most systems (and not allowed for others) is required for arithmetic statements. GOTO and GOSUB statements are allowed but the user will not find instructions in the *True BASIC* manuals concerning what these commands do or how to use them. Remember, structured programming began with a fierce war over these two statements. Finally, each program must have an END statement, although this need not be at the end of the text.

After a program has been written, the text may be compiled with the RUN key or RUN command or simply compiled with the COMPILE command. Any errors that the compiler detects will be documented in the history window and the cursor will usually be found at the position of the error. The error must be corrected and the program compiled again. Once compilation has been successful the program will run. Output will appear in the history window or, if a clear screen statement is in the program, a fresh screen is provided.

The program may be set up with BREAK commands that stop execution until the CONTINUE statement is entered at the command line. Program execution may be halted manually with the <ctrl> SCROLL LOCK (<ctrl>HELP for the QX-10 and <ctrl>± for the QX-16) and restarted with the CONTINUE statement. When the program is stopped, the value of any variable may be determined with a PRINT statement at the command line, just as in other BASIC systems. Similarly, the value of a variable may be changed with a LET statement and execution CONTINUED as in other systems.

The Structure

The term structure is a special keyword in programming. It means that program units may be written that are separate and independent of the rest of the program. *True BASIC* provides this feature with true subroutines and functions that pass variables to and from the main program. The subroutines and functions may be written in one of two ways. If functions and subroutines are written after the END statement all variables within these units are separated from those of the rest of the program. Thus, two variables with the same name found in different subroutines will actually be different variables if the subroutines are written after the END statement. If units are before the END statement, all variables in the units are accessible by other parts of the program. The most important part of a structured language is the ability to prepare a library of tested subroutines for future use. *True BASIC* permits the user to store subroutines in separate compiled or

uncompiled libraries. These subroutines may be included in the current working program.

Structure also refers to the style in which decisions are made in the program. It happens that most decision problems can be handled with the usual IF-THEN-ELSE structure. However, a complex decision could quickly prompt the development of a complex set of nested IF-THEN-ELSE statements that are very difficult to sort out. For this reason, several additional decision-making constructs are usually available in structured languages.

Loop structures include the usual FOR I = 1 to N .. NEXT I loop, as well as an infinite loop -- the DO ... LOOP. Either of these loops may be exited with the EXIT DO statement. It should be mentioned here that an exit from a loop like this probably isn't strictly kosher in a truly structured language. However, we will let this pass. Three conditional loops are provided:

```
DO WHILE (condition is true)
 --        Checks condition before
 --        entry into the loop.
LOOP
DO         Checks condition after
 --        each loop is finished.
 --
LOOP UNTIL (condition is true)

DO WHILE (condition 1 is true)
 --        Checks condition one before
 --        entry into the loop and
           condition two after each
LOOP WHILE (condition 2 is true) loop.
```

Finally, more complex IF-THEN-ELSE problems may be handled with the SELECT CASE statements:

```
SELECT CASE Variable
  CASE value1
   --              execute statements
   --              if Variable = value1
  CASE value2
   --              execute statements
   --              if Variable = value2
  CASE ELSE
   --              execute if no CASE
   --              statements are true
END SELECT
```

This type of CASE construct is not as clean as some structure enthusiasts might prefer but it adds a tremendous amount of decision-making power to the language.

Graphics

The *True BASIC* system contains a fairly complete set of graphics commands. This set includes plotting of text and various standard shapes. A library of plotting subroutines is included with the sample programs. The plotting command set may not be quite as extensive as the MicroNova TurboPlot [5] package for use under TPM. I have not been especially impressed by the graphics capabilities of the IBM-PC, however, and this programming set should be more than adequate.

Graphics are probably the most demanding feature when a computer is compared with the IBM-PC. The EPSON QX-16 is very compatible with the *True BASIC* plotting command set once the machine is set in color graphics mode with the MODE CO80 command. This might best be handled in a CONFIG file. One wonders if some of the incompatibility reported for this machine is due to improper screen modes.

The Epson QX-10 with the Titan QX/PC2 board is slightly less compatible with the *True BASIC* plotting commands. The HIRES graphics mode must be switched on manually with the GRAPH/ALPHA (STYLE) key before the RUN command is given. Even then, if the program contains the *True BASIC* SET MODE "graphics" statement the compiler will not permit program execution. These statements must be removed from the text. The system apparently will not plot text in graphics mode and there seems to be a problem plotting points under certain circumstances with the QX-10. Despite this, all but two of the numerous demonstration programs ran as expected on the QX-10 QX/PC2 system.

Conclusion

True BASIC is a programming package for the MS-DOS operating system that provides a very fine working environment. The full screen editor and complete documentation are almost unique in the class of BASIC systems. The authors took it upon themselves to provide a BASIC that contains enough structural features to finally place BASIC into the class of modern programming languages. It doesn't include all the structure that is found in some highly structured languages, but some of these features can be as obstructive as they can be helpful.

The package works well with the EPSON QX-10 and QX-16 machines in normal BASIC statements, including the handling of disc files. The graphics statements appear to be completely compatible with the QX-16 in color graphics mode, with or without the color monitor. However, some statements do not appear to work on the QX-10 with the QX/PC2 board, and this machine must be placed into graphics mode manually.

This is not the only BASIC system that works on the Epson computers. GWBASIC for the IBM-PC has been reported to work well on both the QX-10 and the QX-16. While GWBASIC is interpretative, *True BASIC* executes a pre-compiled pseudo code that tends to run faster. The compliler does not provide stand-alone compiled .COM or .EXE files but, like GWBASIC, a separate package is available for this purpose. Unfortunately, this package is somewhat expensive.

References

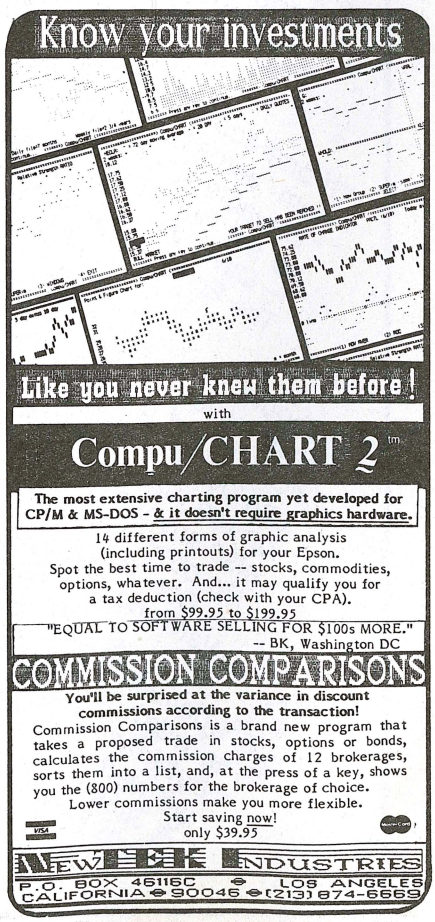
1. BASIC, Richard Aarons, PC Magazine, October 29, 1985, page 116.

2. True BASIC, John G. Kemeny and Thomas E. Kurtz, Addison-Wesley Publishing Company, Inc, Jacob Way, Reading, MA 01867. $149.90 (available at about $95 from mail order houses).

3. Chaos Manor, True Madness, Jerry Pournelle, BYTE, September 1985, page 366.

4. True BASIC, Software Review, Michael Vose, BYTE, May 1985, page 279.

5. MicroNova's TurboPlot with Turbo Pascal, David Crotty, EpsonConnection, June/July and August, 1985. ■


Know your investments
Like you never knew them before!
with
Compu/CHART 2
The most extensive charting program yet developed for CP/M & MS-DOS - & it doesn't require graphics hardware.
14 different forms of graphic analysis (including printouts) for your Epson.
Spot the best time to trade -- stocks, commodities, options, whatever. And... it may qualify you for a tax deduction (check with your CPA).
from $99.95 to $199.95
"EQUAL TO SOFTWARE SELLING FOR $100s MORE."
-- BK, Washington DC
COMMISSION COMPARISONS
You'll be surprised at the variance in discount commissions according to the transaction!
Commission Comparisons is a brand new program that takes a proposed trade in stocks, options or bonds, calculates the commission charges of 12 brokerages, sorts them into a list, and, at the press of a key, shows you the (800) numbers for the brokerage of choice.
Lower commissions make you more flexible.
Start saving now!
only $39.95
NEW TEK INDUSTRIES
P.O. BOX 46116C • LOS ANGELES CALIFORNIA • 90046 • (213) 874-6669

Is VALDOCS+™ Worth It?

Here's what the critics have to say.

"After two and a half exciting years, I have found it all in Valdocs+. It has made me "User Happy."
— John Whiting, editor
The Epson North Metro Users Group newsletter

"If one counts the reports of our own members and of newsletters from across the country, Valdocs now lives up to its name, "Valuable Documents," and Chris Rutkowski has finally done what he set out to do."
— David Zwang, president
The Epson North Metro Users Group

"Should I buy it? "Should I buy it? Many many QX-10/16 owners have called to ask that question. Our answer is YES. There is nothing out there that we know of capable of the things Valdocs+ can do. It comes as close to a universal software program as any on the market. When finished in late Spring '86, there will be little else anyone will need to make full business use of their QX-10/16. No other software marketer can make that statement.
— Don Terp
ValWorld Gazette

"I believe that the independent release of Valdocs offered by RSI is worth the money: not in terms of what they promise tomorrow, but in what they can deliver today. Now I understand: this is what we were waiting for all along."
— Jack Krough
South Eastern Minnesota Epson Owners News

"Overall, we have nothing but kudos for the V+ learn, easy to use, very reliable (especially as yet sports some very sophisticated featu default documents, multiple views (up to 8 one time), and multiple Lookfor and Rep
— Murray Soupcoff
Epson Link

"The documentation is prior knowledge documentation, it ex its capabilities are
— Erika Kuelke
ValWorld Gazette

"After years of waiting and giving up and Lotus and MEX, I am happy to tasty meal indeed. And I haven't e
— Morris Schorr
The Rising Star Magazine

CALL FOR DETAILS — 213-373-9127
(Dealers call 213-373-9112)

To order, or to obtain more details on these products and packages, call Rising Star at 213-373-9127 or 213-373-9112. Please allow four to six weeks for delivery.

NOTE: Rising Star Industries is pleased to announce that we are now accepting the American Express Card, in addition to Visa and MasterCard.

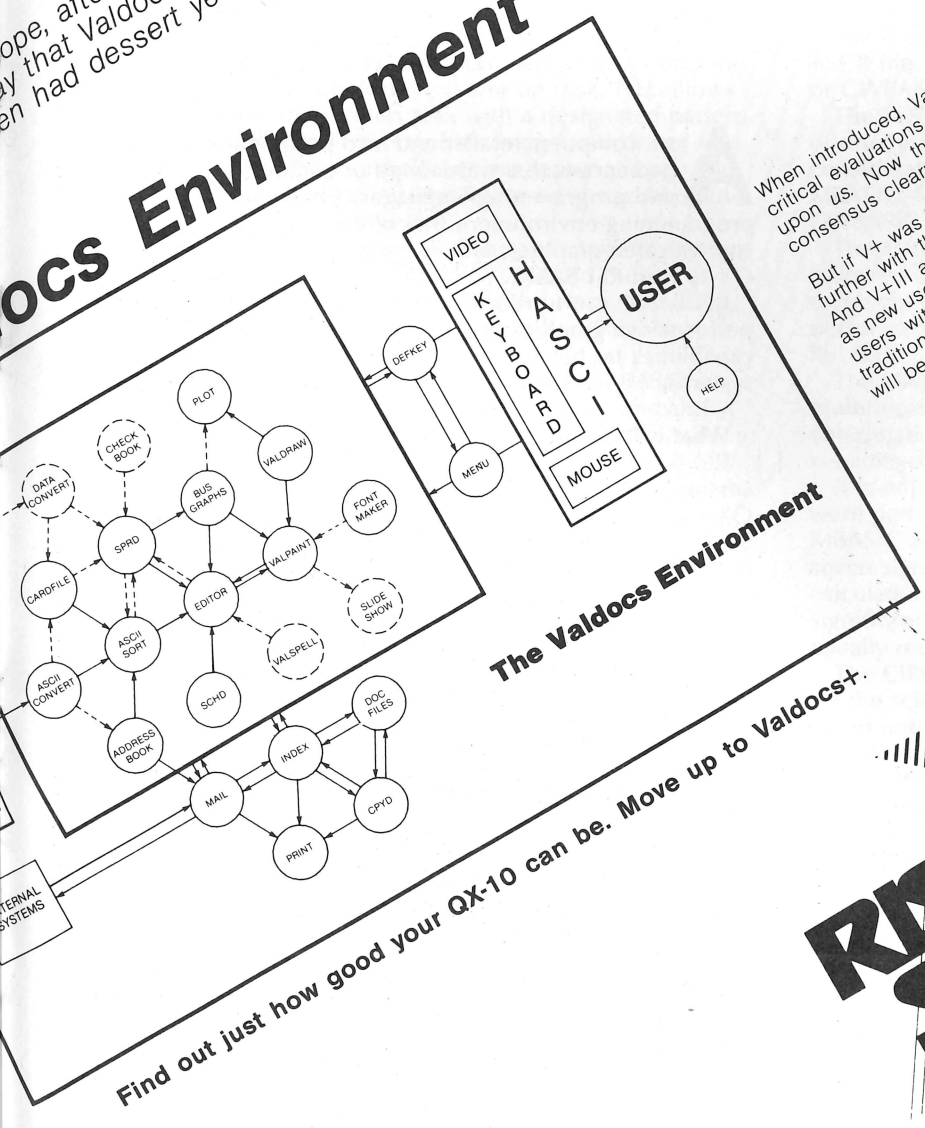
Editor. It is easy to
ompared to V2) and
s including multiple
ocuments retrieved at
ace (up to nine pairs).

ell written, easy reading and assumes no
Valdocs+. Unlike most computer
ains each and every module in detail, what
d how to best use it."

ope, after dining on dBase
y that Valdocs+ is a mighty
en had dessert yet."

"We think it's terrific stuff, very usable, as easy as it can be, fun both to work and play with. V+ alone will keep the QX-10 alive and well on many a desk."
— Al Magary
ValNews

ocs Environment



The Valdocs Environment

When introduced, Valdocs+ was subjected to some of the most critical evaluations imaginable: after all, the burden of proof lay upon *us*. Now the results are in, the votes counted, and the consensus clear. Valdocs+ *delivers*.

But if V+ was "worth it", the V+II upgrade tipped the scales even further with the introduction of super quick "draft mode editing." And V+III adds what may be the best spell-checker ever-as well as new user-interface options that better accommodate advanced users without compromising ease-of-use for those who prefer traditional "full text" menus. And a broad range of *useful* features will be introduced during the coming months.

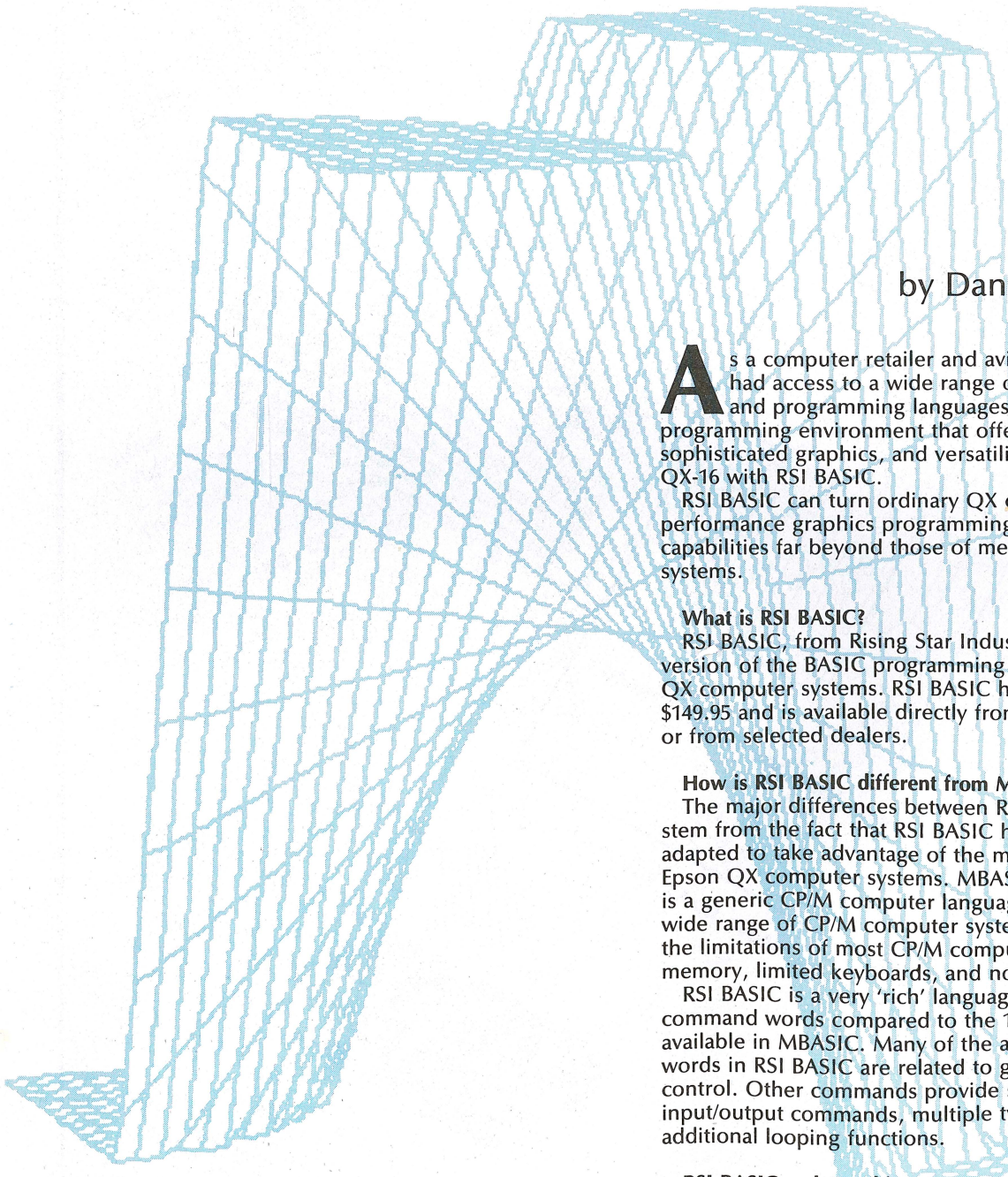
Find out just how good your QX-10 can be. Move up to Valdocs+.

RISING STAR™

COPYRIGHT 1986

Rising Star Industries,
25500 Hawthorne Blvd,
Torrance, CA 90505

RSI BASIC 2+



by Dan Oja

As a computer retailer and avid programmer, I have had access to a wide range of computer systems and programming languages. I have found no other programming environment that offers the ease of use, sophisticated graphics, and versatility of the QX-10 and QX-16 with RSI BASIC.

RSI BASIC can turn ordinary QX computers into high performance graphics programming systems with capabilities far beyond those of mere 'IBM compatible' systems.

What is RSI BASIC?

RSI BASIC, from Rising Star Industries, is an advanced version of the BASIC programming language for the Epson QX computer systems. RSI BASIC has a retail price of $149.95 and is available directly from Rising Star Industries, or from selected dealers.

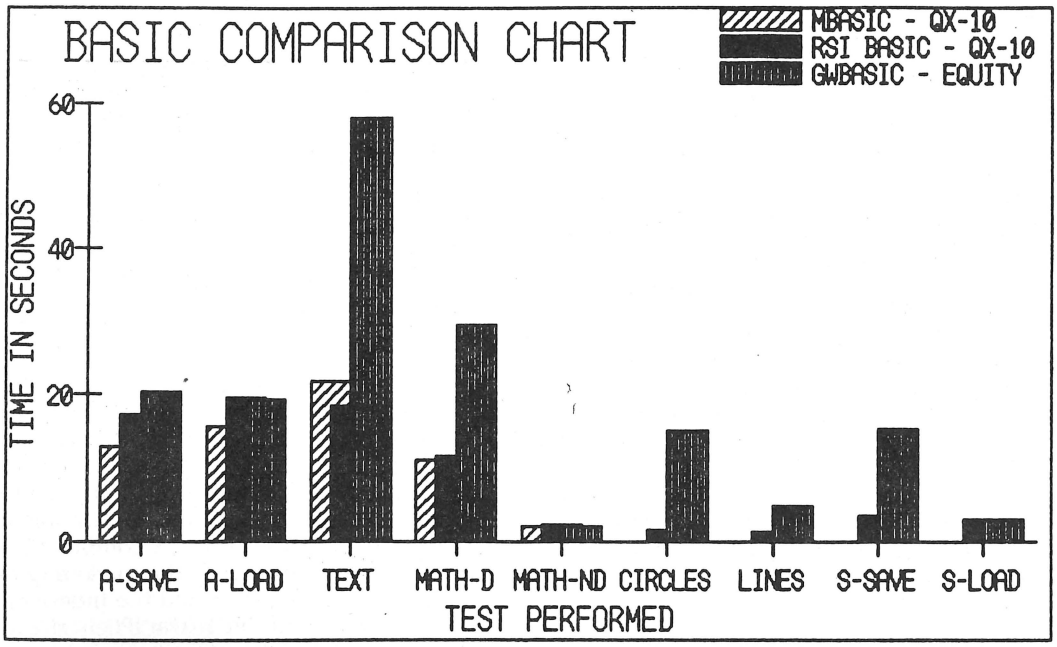
How is RSI BASIC different from MBASIC?

The major differences between RSI BASIC and MBASIC stem from the fact that RSI BASIC has been specially adapted to take advantage of the many features of the Epson QX computer systems. MBASIC on the other hand, is a generic CP/M computer language created to run on a wide range of CP/M computer systems. MBASIC reflects the limitations of most CP/M computers which have 64K of memory, limited keyboards, and no graphics capabilities.

RSI BASIC is a very 'rich' language, consisting of 183 command words compared to the 115 command words available in MBASIC. Many of the additional command words in RSI BASIC are related to graphics and video control. Other commands provide sound, additional input/output commands, multiple type styles, and additional looping functions.

RSI BASIC and Graphics

Perhaps the most exciting feature of RSI BASIC is its support for the powerful graphics capabilities of the QX computer systems. Over 40 command words are devoted to screen and cursor control.



Some commands, such as CIRCLE and RECTANGLE, draw basic graphics figures on the screen. Commands such as FONT and VPRINT allow display of text in a wide range of sizes and styles. PUT, GET, and SCRN READ and SCRN WRITE allow you to move portions of a display around the screen and retrieve or store a picture on disk. FILL allows automatic filling of a screen area with a designated pattern. DMODE modifies the way in which images are drawn on the screen, providing control over overlapping images, a means of selectively erasing one figure on the screen, and an easy method of animation.

All of the RSI BASIC graphics commands take advantage of the extremely high resolution (640X400) of the QX computer systems. This is four times the resolution normally used on IBM compatible systems (320X200).

BDRAW and GDRIVER

One of the most powerful commands in RSI BASIC is BDRAW. The potential power of the BDRAW command is related to the use of the NEC 7220 graphics co-processor in the Epson QX computers.

The 7220 is an extremely fast, high performance graphics processor with a wide range of graphics capabilities. To simplify the task of controlling this powerful graphics processor, RSI created a series of graphics routines called the GDRIVER Engine that directly controls the 7220 graphics processor.

In essence, BDRAW commands give instructions to the GDRIVER Engine which in turn controls the 7220 graphics processor. BDRAW commands provide an easy way for the RSI BASIC programmer to utilize the tremendous power of the 7220 without excessive complexity or 'housekeeping' tasks.

Through BDRAW commands it is possible to open and close windows on the display, scroll horizontally and vertically, zoom in on any portion of the display, manipulate the cursor, modify the text display, and create multiple display screens for animation purposes. The program BDRAW.BAS is a simple example of the use of BDRAW commands from RSI BASIC.

Speed

RSI BASIC on the QX-10/QX-16 computers is a relatively fast version of BASIC. I performed a series of tests to compare the relative speeds of a QX-10 running RSI BASIC, a QX-10 running MBASIC, and the IBM compatible Epson Equity 1 running GWBASIC. The results of these tests are summarized in figure 1.

The **A-SAVE** test measured the speed with which the language saved an ASCII file to disk. MBASIC performed slightly faster than either RSI or GWBASIC.

The A-LOAD test measured the speed of loading an ASCII file. MBASIC performed slightly faster than either RSI or GWBASIC.

The **TEXT** test measured the speed of displaying a series of one line print statements on the screen. GWBASIC took considerably longer to perform this test than either RSI or MBASIC. RSI BASIC performed over three times as fast as GWBASIC in this test.

The **MATH-D** test consisted of a series of additions followed by a series of multiplications. The result of each computation was displayed on the screen. GWBASIC performed significantly more slowly than either MBASIC or RSI BASIC on this test.

The **MATH-ND** test consisted of the same addition and multiplication problems except that the results of the computations were not displayed on the screen. All three versions of BASIC performed at similar speeds in this test.

It is important to note that the above two math tests were performed with the 'native' precision of the language. MBASIC and GWBASIC performed the calculations using seven significant digits. RSI BASIC performed the calculations using twelve significant digits. Use of more significant digits results in a more accurate final result, but usually requires more time per calculation.

The **CIRCLES** test consisted of a series of circles drawn on the screen. MBASIC offers no graphics capabilities and could not be tested in this area. RSI BASIC performed this test almost ten times as fast as GWBASIC.

The **LINES** test consisted of a series of lines drawn on the screen. MBASIC offers no line command and could not be tested. RSI BASIC performed this test over four times as fast as GWBASIC.

The **S-SAVE** test consisted of saving a 320X200 pixel area on disk. MBASIC cannot save graphics areas to disk and could not be tested. RSI BASIC performed this task over four times as fast as GWBASIC.

The **S-LOAD** test consisted of loading a 320X200 pixel area from disk to screen. MBASIC cannot load graphics areas from disk and could not be tested. This is the only graphics related task in which GWBASIC was able to match the time of RSI BASIC.

As indicated in the above test results, RSI BASIC is a relatively fast version of BASIC. Due to the capabilities of the 7220 Graphics Processor in the QX, RSI BASIC performs

particularly fast in tasks involving display and scrolling of text, or graphics tasks such as lines and circles. IBM compatible computers, such as the Equity 1, cannot the match the QX in any task that involves display of text or graphics on the screen.

Working Area

BASIC on the Epson QX-10 provides an 83K work space. Most of the 256K RAM of the QX-10 is used for RSI BASIC, the fonts, and the background modules which provide for such functions as screen printing, video routines (BDRAW commands), and print spooling.

The 83K work space is used for programs, strings, variables, put/get storage areas, and arrays. Screen displays of both text and graphics take place in the additional 128K of video RAM included with all QX computer systems. This working space compares very favorably with that provided by most other languages.

MBASIC, as a CP/M program, is confined to a single 64K bank of memory. With MBASIC and CP/M loaded into RAM, there are 33K free for programs and data. GWBASIC on the Equity 1 provides a 61K area for programs, variables, strings, and arrays.

Resource Materials

BASIC comes with a complete reference manual describing the effects of each of the RSI BASIC command words.

Persons interested in programming in RSI BASIC should consider purchase of the Graphics Driver Manual from Rising Star Industries. This manual documents the functions of the GDRIVER engine and provides the information necessary to fully utilize the BDRAW commands. The Graphics Driver Manual is available from RSI and selected dealers at a cost of $35.00.

RSI BASIC Compiler

RSI has published a 'pseudo-compiler' for RSI BASIC, the RGCS Compiler. The RSI BASIC compiler is available from RSI and selected dealers for $75.00.

This compiler translates RSI BASIC programs into self-contained .SYS files. This makes it possible for people who do not own RSI BASIC to run the compiled versions of RSI BASIC programs.

Programs compiled with the RGCS compiler do not run significantly faster than non-compiled programs. However, programs that have been compiled with the RGCS compiler are protected from unauthorized alteration and examination.

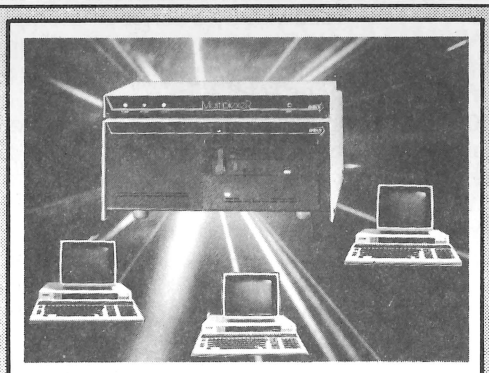
Additional Notes

The availability of the RGCS compiler has opened the way for independent software development and marketing for the QX computers. Independent developers finally have a language which uses the features of the QX computers, and makes it possible for them to market those programs to the owners of QX computer systems.

To assist programmers in the marketing of their programs, RSI has established the Independent Programmer's Guild (IPG). The IPG is already marketing a number of RSI BASIC educational and recreational programs for the Epson QX computers. For more information regarding the Independent Programmer's Guild, contact Rising Star Industries.

RSI has assembled an RSI Tools Package which contains RSI BASIC 2, the RSI BASIC compiler, the TPM III User's Guide with Utilities, RSI Assembly Language Programming Tools, the Graphics Driver Manual, and R4th (when released) for a total cost of $195.00. This complete set of programming tools and reference materials is highly recommended for the serious Epson QX programmer. ■

The Bi-Tech Star Network



Able to link 8 computers to a Hard Drive System

The Ideal Storage System

10 to 140 megabytes of fixed storage plus removable winchester cartridge, providing an additional 10 megabytes of on-line or backup capability.
Multiple operating system support.
Variable volume size capability.

The Bi-Tech STAR NETWORK

A high speed parallel multiplexer.
Multiple PC support.
Shares programs and data.
Allows mixing of PC & compatibles in the same system.
Includes all the features of a Bi-Tech storage system.

IBM PC, XT, AT • Compaq • AT&T 6300 • Columbia • Corona • Eagle • TI Professional • Zenith • Televideo & IBM Compatibles Tandy Models I, III/4, 2/12/16, 1000, 1200, 2000 • Epson QX-10/16, Equity I, II, III • NEC APC III

Available at many local EPSON Dealers
If your Dealer doesn't have it, call for further information

SEND FOR YOUR DESCRIPTIVE MASS STORAGE SYSTEM BROCHURE

SPECIAL — Equity 1 — INTRODUCTORY OFFER

Equity 1
Internal Hard Disk Upgrade Kits
Includes: Controller, Drive, Cables & Manual
10 meg $595.00
20 meg $795.00

Equity 1
CALENDAR/CLOCK & 384K Memory Board $199.00
Populated with Memory • Serial Port • Game Port • Parallel Port • Single Card Slot

INTRODUCING... A New Line of Bi-Tech Hard Drive Systems

★ The same Performance & Quality as our PREMIERE SYSTEMS.
★ The New Compact System is designed as an economical alternative.
★ Single 1/2 Height Winchester Drive

Sizes: 10-40 Meg Fixed
10 Meg Removable Cartridge
60 Meg Streaming Tape Backup for IBM

REFER TO DEPT. 8-C

Bi-Tech Enterprises Inc.

10 CARLOUGH ROAD ■ BOHEMIA, N.Y. 11716-2996 ■ (516) 567-8155

Shoppers Guide

ASTROKEY

ASTRO RESEARCH, INC.
974 N.W. Circle Blvd.
QX-10/16 Corvalis, OR 97330
CP/M B 2.20 and higher.
(503)758-1132

Astrokey permits the user to modify keyboard assignments. Single character or string assignments can consist of any character(s) and can be assigned to any key. New key assignments can be stored and later executed directly, or may be automatically 'patched' to any application program for automatic execution and reset. Includes sample files for dBase, WordStar, etc. $49.95 postpaid. Demo disk $5.

ELECTRA-FIND

O'NEILL SOFTWARE
Box 26111-ESG
QX-10/16 San Francisco, CA 94126
CP/M, MS-DOS (415)-398-2255

TEXT RETRIEVAL SOFTWARE. $49. Lets you use text documents as a database. Finds, retrieves, and automatically collects material from multiple files. Allows complex searches. Used by attorneys, researchers, programmers. Money-back guarantee. Free brochure.

HX-FILE

ASCENT, INC.
190 Sobrante Way
PX-8, HX-40 Suite 201
IBM-PC & compatibles.
Sunnyvale, CA 94086
CP/M, MS/PC-DOS (408)-720-9200

HX-File™ is a flexible and easy-to-use information organizer. Like pfs:file™, you can easily create and modify data forms. With HX-File you can also store, retrieve, update, sort and print information, plus convert it to and from comma separated value (CSV) format.

KIWI

ASCENT, INC.
190 Sobrante Way
Suite 201
PX-8, HX-40 Sunnyvale, CA 94086
CP/M (408)-720-9200

Kiwi™, an easy-to-use text editor, allows you to quickly type and modify approximately 5 pages of text (insert/change text; copy/delete blocks of text; search/replace strings). Kiwi is menu driven, uses dedicated function keys and help messages.

MAGIC CURSOR COMPUTER CENTER

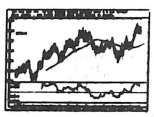
MAGIC CURSOR COMPUTER CENTER
402 W. Arrow Highway #6
San Dimas, CA 91773
(714)-599-8361

Magic Cursor is an "EPSON ONLY" Dealer located in Southern California. For complete Epson Sales, Service, and Support of ALL Epson products call us FIRST! Modem # (714) 592-1863. All C/PM and MS-DOS software products also available.

TELEDEX

ASCENT, INC.
190 Sobrante Way
PX-8, HX-40 Suite 201
IBM-PC & compatibles.
Sunnyvale, CA 94086
CP/M, MS/PC-DOS (408)-720-9200

TeleDex™ combines an address/ phone book, appointment book, comprehensive telecommunications functions, and file utilities in an easy-to-use package. These feature work together so you can dial phone numbers from your Address/ Phone or Appointment book or set an alarm in the Appointment Book to automatically execute telecommunications commands.



UPSET
ANGRY
FRUSTRATED?

over the lack of Quality
Stock and Commodity Programming
available for the QX-10 user!!

* NOT ANY MORE *

Coast
Investment
Software ANNOUNCES:

The BEST! Moving Average, Oscillator, Data Base Management programs, and Charting Graphics available in the industry today at any cost! $99 each, with your choice of Historical data base.

- Designed by Professional Traders
- Programmed by Professionals
- Package Discounts available
- Low cost preselected Historical Data Base, including "continuous" contracts, on diskette – popular formats –
- As seen in Futures Magazine

Send for Brochure: P.O. Box 809
Hermosa Beach, CA 90254
Call 213-372-5491

QX-10 HARD DISK

COMPLETE SYSTEM

$1295.00

FULLY COMPATIBLE
FULL ONE YEAR WARRANTY

P.R.O. SYSTEMS
OF KANSAS CITY

10601 W. 63RD SHAWNEE KS 66203
PHONE 913-262-6953
DEALERS INQUIRIES INVITED

Converting PeachTree Mailing List Files to dBASE-II Format

by Allen Howell

In answer to the many calls we received asking how I converted our PeachTree Mailing List Manager data files into dBASE-II format ("Grand Junction," March 1985 issue,) we now present our procedure to you.

I will attempt to explain the process as simply as possible. Users with nominal experience in PeachTree's Mailing List Manager, dBase-II, and MBASIC should have no trouble understanding the procedure.

I will not pursue the weaknesses of ML, nor attempt to teach you how to write programs in dBASE-II. It is assumed that you already have your reasons for converting over to dBASE-II, but you simply need to convert your data files over to dBASE so that you may manipulate your present data without having to re-enter your data info into dBASE from scratch.

Our procedure involves three basic stages of data file conversions:

1) Converting your ML data files into ASCII files via ML.
2) Converting the ASCII data file into a dBASE System Data File (SDF) via MBASIC.
3) Converting the dBASE SDF into a dBASE data base file (DBF) via dBASE-II.

If your ML data file record length is less than 75 characters, then stage two of the conversion process is not required.

Conversion Process Stage One:

First, make sure you have enough disk space on the drive on which you are going to create the ASCII file. Using STAT, find out how big your ML data file is. You need only consider the .DAT file, and not the .KY1, .KY2, .KY3, or .MLB files associated with the ML data file. Now, compare the size of the .DAT file with the available space you have on any of your drives. If your drive space is smaller than the data file size, then you'll have to use a different drive, erase some files, or format a new disk to store the ASCII file on.

Enter the ML program, select the file to be converted (SA), enter the define address label function (DL), then create a new label format called DISKFILE.

This next procedure is perhaps the most important process involved. Follow the steps below:

1) Determine which fields you wish to include. You need not transfer unused ML fields into dBASE if you don't want to.
2) Add the total characters reserved (spaces) of the fields you are converting, e.g. if the field "Name" reserves 20 spaces, "Address" reserves 25, "City" reserves 15, "State" reserves 2, and "Zip" reserves 5, then the total amount of space required per record is 67 (20+25+15+2+5). NOTE: You may have to enter the DA module, and re-display your file structure if you forget how many characters are reserved for your fields. IMPORTANT!! Your record size CANNOT exceed 255 characters. If it does, you'll have to eliminate some fields until your record size is under 255 characters.
3) If the total record space exceeds 75 characters, then divide your total by 75 and round off your answer to the next highest whole number, e.g., if your record length is 210, then divide 210 by 75. This would result in 2.8. Rounding this number to the next highest whole number results in a 3.
4) Now you are ready to define your label size. Enter '0' for all variables, except for line 2 of the label definition. If your record size (from step 2) exceeds 75 characters, then make your label format 75 characters wide, otherwise, enter the record size for the label width.
5) Now enter the number of lines the label will contain. If your record size is less than 76 characters, then specify ONE line only. If it is greater than 75, then enter the number resulting from your computations in step 3.
6) Remember, only the second line should contain any numbers, with the rest of the format data as zeros. Save the definition and proceed to the item positioning section.

EpsonNet Network
RBBS/RTPM

NORTH WESTERN STATES

Monterey, CA **
408-646-8171
24 Hrs. 7-Days

SOUTH WESTERN STATES

Torrence, CA **
213-539-6765
24 Hrs. 7-Days H.D.

Los Angeles, CA **
714-630-7104
24 Hrs. 7-Days H.D.

Salt Lake City, UT ***
801-485-0383
24 Hrs. 7-Days

Victorville, CA **
619-243-1265
10am-3pm Mon-Thurs H.D.

NORTH CENTRAL STATES

Leawood (Kansas City), KS ***
913-642-8479
24 Hrs. H.D.

SOUTH CENTRAL STATES

Dallas, TX ***
214-881-0313
24 Hrs. 7-Days H.D.

Houston, TX **
713-991-4461
24 Hrs. 7-Days

Brownsville, TX *
512-831-3555
6pm - 10pm M-F
24 Hrs. Sat & Sun

MIDWEST STATES

Wauwatosa (Milwaukee), WI ***
414-351-9246
4pm - 10pm M-F
8pm - 12am Sat-Sun

Epconn SOCIS ***
Detroit, MI (PW=EQUITY)
313-823-1425
24 Hrs. 7-Days H.D.

Lake Zurich (Chicago), IL **
312-438-6149
Mon-Sat 8pm-11pm

Portage, IN **
219-762-5620
6pm - 6am 7days

Aurora, IN ***
812-926-3396
24 Hours

NORTH EAST STATES

Methuen, MA **
617-689-0699
Weekdays 2pm - 12am
Weekends 6pm - 12am

South Blue Hills, ME ***
207-374-2203
6pm - 6am H.D.

Sugarbush, VE ***
802-496-4123
24 Hrs. 7-Days H.D.

EAST CENTRAL STATES

Sussex, NJ ***
201-875-2635
24 Hrs. 7-Days

Perry Hall (Baltimore), MD **
301-256-8012
8pm - 6am Mon-Sat

West Chester, PA **
215-692-7502
9pm - 8am M-Sat.

Philadelphia, PA **
215-938-0334
8pm - 8am M-Sat.
All day Sunday

EPSONCONNECTION *Quick Action Card*

I have seen your _____ in the _____
(specify product name/service) (specify issue date)
issue of the EpsonConnection.

- ☐ Please send me detailed information.
- ☐ Please call me with detailed information.
  Telephone Number (___) _____
- ☐ Please have your nearest dealer contact me.

NAME _____ TITLE _____
COMPANY NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

EPSONCONNECTION *Quick Action Card*

I have seen your _____ in the _____
(specify product name/service) (specify issue date)
issue of the EpsonConnection.

- ☐ Please send me detailed information.
- ☐ Please call me with detailed information.
  Telephone Number (___) _____
- ☐ Please have your nearest dealer contact me.

NAME _____ TITLE _____
COMPANY NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

EPSONCONNECTION *Quick Action Card*

I have seen your _____ in the _____
(specify product name/service) (specify issue date)
issue of the EpsonConnection.

- ☐ Please send me detailed information.
- ☐ Please call me with detailed information.
  Telephone Number (___) _____
- ☐ Please have your nearest dealer contact me.

NAME _____ TITLE _____
COMPANY NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____

PLACE
STAMP
HERE

Name and Address
of Manufacturer

PLACE
STAMP
HERE

Name and Address
of Manufacturer

PLACE
STAMP
HERE

Name and Address
of Manufacturer

Philadelphia, PA **
215-673-5661
24 Hrs. 7-Days

Hidden Valley, NJ ***
201-764-2507
24 Hrs.

SOUTH EASTERN STATES

Troutman, NC **
704-528-6687
7pm Fri-7am Mon

AUSTRALIA

Michael Nobbs **
73 Dumaresq St.
Cambelltown
Australia, 2560

* indicates 300 Baud only.
** indicates 300/1200 baud.
*** indicates 300/1200/2400 baud.
H.D. indicates Hard Drive.

Figure 1

```
          MAILING LIST MANAGER
** Define Label Formats: Aux. ULIST on QX-10 **

Format: DISKFILE                    LINE  4 COL  1
 ....................................................................
 .Name**************************Street**************************.
 .City***************State*******Country***********Zip*******Phone*******.
 .Sub Date*9***ProfessionSp Notes**12Comp #*******                  .
 .Company Name******************                                   .
 ....................................................................

    Use Control Keys
    To Position Cursor              1 - Name          8 - Sub Date
                                    2 - Street        9 - Comp Info
    Ctrl-P = Place Item             3 - City         10 - Profession
    Ctrl-E = Erase Item             4 - State        11 - Sp Notes
                                    5 - Country      12 - User Cat
ESC to end Item Positioning         6 - Zip          13 - Comp #
                                    7 - Phone        14 - Company Name
```

Line 1 ends at column position 60
Line 2 ends at position 70
Line 3 ends at position 47
Line 4 ends at position 30

Figure 2

```
          MAILING LIST MANAGER
** Produce Mailing: Aux. ULIST on QX-10 **
Mailing: DISKFILE
                                                Current Formats:
              Use label format: DISKFILE -MANDATORY  DISKFILE
   Sort records by item number:  6 -OPTIONAL
                 (opt)  then by: 0 -OPTIONAL
                 (opt)  then by: 0 -OPTIONAL
Ascending or Descending (A/D): A -OPTIONAL
Send output to
(P-printer,D-disk file,C-Crt): D -MANDATORY
          (if disk) File name: B:MAILLIST -MANDATORY (any filename)
        Continuous forms (Y/N): Y -MANDATORY
   Compress blank lines (Y/N): N -MANDATORY
  Compress blank spaces (Y/N): N -MANDATORY
Reverse halves at comma for
  item number (0 if not used):  0 -OPTIONAL
  Number of copies per record: 1 -RECOMMENDED
Accept (Y/N)?[Y]                (D = Delete mailing)
 1-Name, 2-Street, 3-City, 4-State, 5-Country, 6-Zip, 7-Phone, 8-Sub Date
 9-Comp Info, 10-Profession, 11-Sp Notes, 12-User Cat, 13-Comp #
 14-Company Name
```

mailing procedure called DISKFILE. Select DISKFILE for "Use label format:". You may sort this file however you wish, but it is recommended that you sort it on your primary index. You MUST select "Send output to" D, for a disk file, and specify any filename you wish the file to be stored as. You may also include the drive designator if you wish for the file to be stored on a drive other than the default drive. The next 3 parameters must be set exactly as they appear in Fig. 2. Select "Y" for "Continuous forms:", "N" for "Compress blank lines:", and "N" for "Compress blank spaces:". The "Reverse halves at comma" question may be set however you wish, and the "Copies per record:" should be a "1". Be sure that you send the output to a disk file and that the drive you are sending output to has enough disk space!!!

11) Accept the mailing definition and proceed to the final phase of defining the mailing profile. This final step allows you to specify the records you wish to include to your ASCII file. Enter your profile specifications (if any).

Continued on following page

7) Place the fields you wish to transfer into your label format. Do NOT enter ANY blank spaces between the fields you place in your label. Enter the fields in the order of precedence you prefer, e.g. if the field "Name" is the most important field, then enter that field first in your label format, then place the second most important next, etc.
8) If your record length exceeds 75 characters, and you cannot get a field to fit at the end of any line, simply use the next line of the label format to place the field. If you find that all of the fields you want do not fit and that you need another line, go back to the label description section, and add 1 to the number of lines to your label size, then go back to step 7.
9) If your record length exceeds 75 characters, then this next step is VERY important. Before you save your label format, get a scrap piece of paper and write down the column position in which the last character of the last field name of each label line ends. See Fig. 1.
10) Save your label definition and proceed to the Produce Mailing (PM) module of ML. Create a new

DISCOUNT DISKS

#1 Best seller in the USA
Maxell 5¼" DS/DD $16.90/box
Maxell 3½" DS/DD $29.90/box

#2 Best seller in the USA
Dennison Elephants —
Standard DS/DD $15.90/box
Premium DS/DD $17.40/box

#1 Best seller at GREEN TREE
Wabash 5¼"
DataTech DS/DD $11.90/box
Pinnacle DS/DD $ 8.90/box

SPECIAL WHILE THEY LAST!!!!!
Brown Disc Mfg. Co.
DS/DD boxes, sleeves, labels and tabs 69¢

DISCOUNT RIBBONS — RED, GREEN, BLUE, BROWN, OR BLACK

		1-3	4-11	12+
LQ1500	COLORED	$8.90	$7.90	$6.95
	BLACK	7.20	6.40	5.60
MX, FX, RX-70 OR 80	COLORED	6.40	5.10	4.30
	BLACK	4.60	4.10	3.60
MX, FX, RX-100	COLORED	7.95	7.25	6.35
	BLACK	6.30	5.60	4.90

Mix and match colors (not black) for quantity price.

Add $3 for orders under $30. Visa or Mastercard orders under $50 are charged an additional $2. Shipping $4 for first 100 discs or part or except to zip codes over 50000 — $6. Additional quantities $2 per hundred. Ribbons $2.50 for any quantity. Money orders, certified checks, personal or company checks earn a 2% discount, but personal checks require up to two weeks to clear. C.O.D. add $4. New Jersey residents include 6% sales tax please.

VISA* GREEN TREE MasterCard

P.O. Box 249
11 Osage Road
Rockaway, N.J. 07866

COMPUTER SUPPLIES

(201) 627-9472
(800) 367-2897

This concludes stage one of the conversion process. Your computer should now be generating the ASCII file. If your record length is 75 characters or less, you may proceed to stage 3, otherwise, continue to stage 2.

Conversion Process Stage Two:

This stage requires an MBASIC program to convert the ASCII file generated from stage one into a dBASE-II System Data File (SDF). The ASCII file generated from stage one contains a line-feed (LF) and a carriage-return (CR) within logical records. To allow dBASE-II to read foreign files, each record must contain a LF, CR at the end, and ONLY the end of each logical record. The MBASIC program listed in this article must be entered into MBASIC and stored. The program will eliminate the LF,CR codes that are contained within each logical record, and place these codes only at the end of each record. This program generates another file, and leaves the original ML data file, and the ASCII file from stage one intact. So again, be sure you have appropriate disk space before running the program.

- ML2DBASE.BAS Conversion Program -

```
10 PRINT"ML 2 dBASE Conversion Program":PRINT"By Allen Howell":PRINT
20 PRINT"Be sure to enter the filenames in UPPER CASE!!":PRINT
30 PRINT"Enter the ASCII data file generated from stage one."
40 PRINT"Include the drive designator and file extension (if any)."
50 INPUT"Filename";F$
60 PRINT:PRINT"Enter the name of the output file this program will create."
70 PRINT"Include the drive designator and file extension (if any)."
80 INPUT"Output filename";F1$
90 PRINT:INPUT"How many lines are there per record";L
100 PRINT:PRINT"Now enter column positions that designate the end of each line."
110 FOR X=1 TO L
120 PRINT"Line";X;"ends at position";:INPUT L(X)
130 NEXT X
140 OPEN"I",1,F$
150 OPEN"O",2,F1$
160 IF EOF(1) THEN CLOSE:PRINT:PRINT"Conversion finished.":END
170 FOR X=1 TO L
180 LINE INPUT#1,A$
190 A$=A$+STRING$(75," ")
200 A$=LEFT$(A$,L(X))
210 B$=B$+A$
220 NEXT X
230 PRINT#2,B$
240 B$=""
250 CN=CN+1:PRINT CHR$(13);"Processing record #";CN;
260 GOTO 160
```

Key in the above program into MBASIC, then save the program via the SAVE command. **Be sure you enter the program EXACTLY as it appears in the listing.**

You should now be ready to "RUN" the program. To invoke the program, enter "MBASIC ML2DBASE" from the CP/M command prompt. The program will now ask you some questions about the data file. First, enter the name of the ASCII file that you generated from stage one. Be sure to specify the drive the file is on, and the file extension. ML automatically places an extension of .DOC at the

EPSON SOFTWARE

MBACOUNT/$89.00: Small business double entry accounting. Up to 40 asset, 40 liabilities, 40 income, 80 expense & 20 capital accounts user assignable. Prints checks, P & L, balance sheet, chart of accounts, single account details, check ledger, etc. Generates a printable detail journal for audit trail.

A/R, A/P, PAYROLL INVENTORY: These programs are available as either stand alone software or MBACOUNT integrated modules. Stand alone **$79.00 ea.** Integrated **$50.00 ea.**

PROFBILL/$149.00: Time keeping and billing for all professional people who bill at various hourly rates. Handles 400 clients, 10 partners/employees. Prints billings, statements, aged billings, partner/employee hours, etc. May be used stand alone or integrated with MBACOUNT.

SBACOUNT/$79.00: Small business single entry system. Up to 99 income and 99 expense categories, user assignable. Prints checks, P & L (month, quarter, YTD), single account details, check ledger. Generates a printable income/expense journal for audit trail.

MAILLIST/$89.00: Mailing list/filing program. 10 fields per record and up to 900 records per file, files limited only by disk space. Sort/print all or partial list by most fields on 1, 2, or 3 across labels on 80 col. printer. Search, add to, delete or edit by most fields.

MBADATA/$89.00: A data/base-filing system usable without learning any special language or control codes. Up to 253 characters, 24 fields, 900 records per file. Sort, print, display any fields in any location in any order desired. Menu driven with step by step prompts!

STANFORM/$79.00: Need to fill out pre-printed forms? Then this program was made for you! Generates programs for printing data in the proper location on any pre-printed form that will fit into your printer. Each form need be generated only once as it is saved on disk.

$FINANCE/$79.00: Personal finance, prints checks, posts to as many as 120 user assignable expense categories, posts checks & deposits, reconciles multiple checking accounts, etc. Similar program for up to 9 charge cards. Extracts/prints listings for various categories.

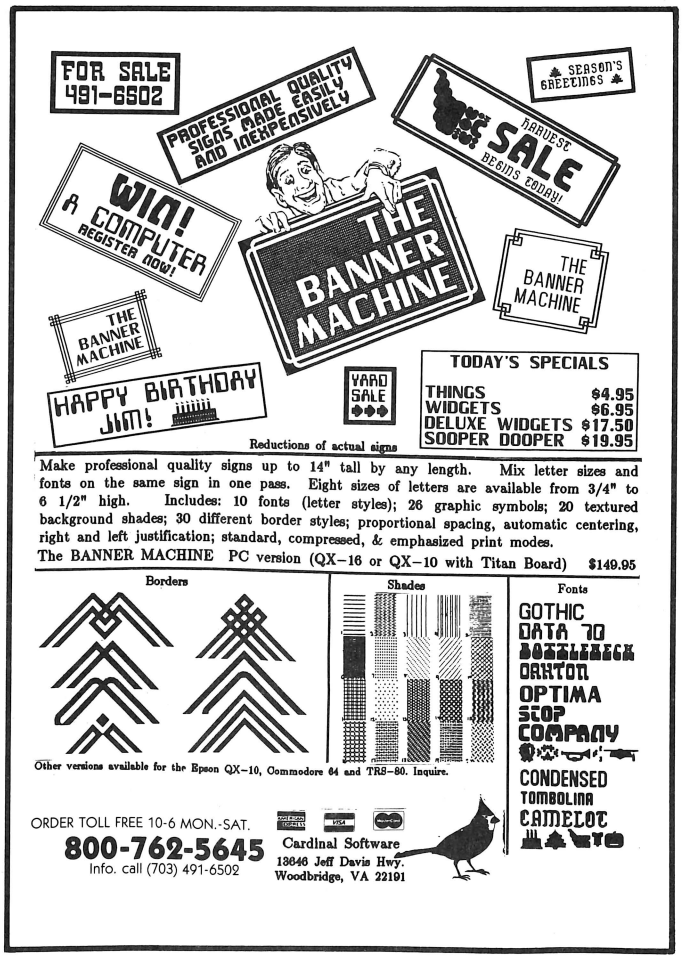
TOUCHTYP/$49.00: Parallels high school/college level touchtyping course. Displays typos, final score. Timed speed drill mode. Electronic typewriter mode converts your printer to a one line memory electronic typewriter with settable margins, tabs, line spacing, etc.

MSBCHART/$49.00: Prints alphabetized list of all variables & line numbers referenced in any program written in basic cross referenced to the line number where used. A godsend when writing or modifying basic programs.

Place your order or request **FREE** catalog by mail or if using COD or credit card, telephone anytime of the night or day. Add $3.00 shipping & $3.00 additional for COD. Shipment will be no later than next working day by 1st class mail. Californians must add 6% tax to prices. (Visa, Mastercard & American Express accepted)

MAP Micro-Art Programmers

173 Birch Avenue, Cayucos, CA 93430 Phone: (805) 995-2329


FOR SALE 491-6502
PROFESSIONAL QUALITY SIGNS MADE EASILY AND INEXPENSIVELY
SEASON'S GREETINGS
HARVEST SALE BEGINS TODAY!
WIN! A COMPUTER REGISTER NOW!
THE BANNER MACHINE
THE BANNER MACHINE
THE BANNER MACHINE
HAPPY BIRTHDAY JIM!
YARD SALE
TODAY'S SPECIALS
THINGS $4.95
WIDGETS $6.95
DELUXE WIDGETS $17.50
SOOPER DOOPER $19.95
Reductions of actual signs
Make professional quality signs up to 14" tall by any length. Mix letter sizes and fonts on the same sign in one pass. Eight sizes of letters are available from 3/4" to 6 1/2" high. Includes: 10 fonts (letter styles); 26 graphic symbols; 20 textured background shades; 30 different border styles; proportional spacing, automatic centering, right and left justification; standard, compressed, & emphasized print modes.
The BANNER MACHINE PC version (QX-16 or QX-10 with Titan Board) $149.95
Borders
Shades
Fonts
GOTHIC
DATA 70
BOTTLENECK
ORBITON
OPTIMA
STOP
COMPANY
CONDENSED
TOMBOLINA
CAMELOT
Other versions available for the Epson QX-10, Commodore 64 and TRS-80. Inquire.
ORDER TOLL FREE 10-6 MON.-SAT.
800-762-5645
Info. call (703) 491-6502
Cardinal Software
13646 Jeff Davis Hwy.
Woodbridge, VA 22191

end of all disk files it creates, so be sure to specify this when you enter the filename.

Next, the program will ask the name of the output file. This will be the name of the output generated by the program, so this file doesn't exist yet. Enter the name with which you wish to identify for the output file. Be sure to specify the drive designator. A file extension is optional. Be sure that the drive to which you are sending the output file has enough disk space left to convert the ML ASCII file. NOTE: This program will not actually "convert" the ML ASCII file, but will instead read the ML ASCII file and create a NEW file that will be readable to dBASE-II.

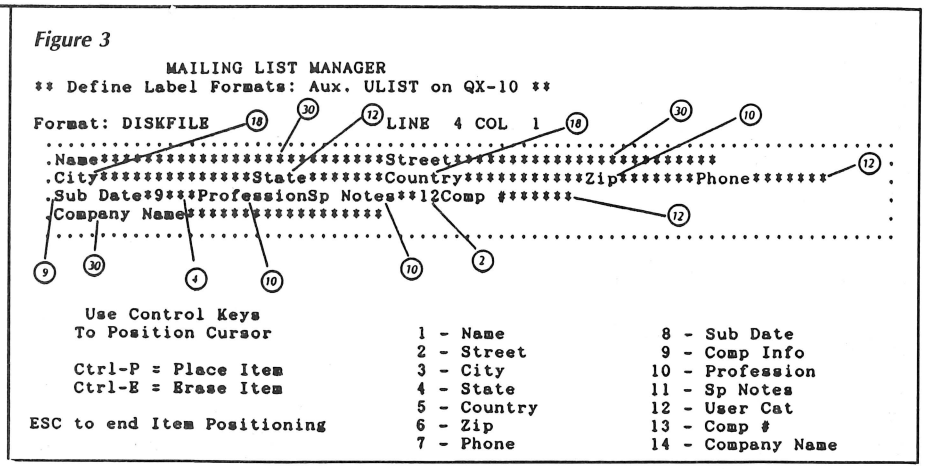
Now the program will ask how many lines there are per record. Enter the number of lines you defined for your label description from step 5 of Stage One of the conversion process.

Finally, the program will ask a short series of questions regarding which column position defines the end of each line. Find your notes from step 9 of Stage One of the conversion process. Enter the "end-line" column positions. Be sure that your input matches EXACTLY with your notes.

Once you define your "line-end" column positions, the program should proceed to create the dBASE SDF. Expect the program to take about as long to run as the ML program took when it created the ASCII file.

After the program has finished, exit back to the system (CP/M) by entering SYSTEM from MBASIC. You may erase or copy the ASCII file generated by ML, since you are now finished with it. Do NOT erase the output file generated by the ML2DBASE program. You are now ready to proceed to stage three.

Figure 3



Conversion Process Stage Three:

This is the final stage of the ML to dBASE conversion process. In this stage, you will enter dBASE-II, create the dBASE Data Base File (DBF) structure, and then via dBASE's APPEND command, you will transfer the contents of the SDF into a dBASE DBF. What is a SDF again? SDF means System Data File. If you were not required to use stage two, your SDF is the ASCII file created from the ML program. If you were required to use stage two, then your SDF is the output file created from the ML2DBASE program.

To proceed, do the following:

1) Load in dBASE-II. Again, be sure that you have enough disk space to convert your SDF into a dBASE DBF. The SDF will not actually be converted, but instead dBASE will read it and create it's own DBF.
2) Create your dBASE file structure via dBASE's "CREATE" command. It is VERY IMPORTANT that the structure you create corresponds EXACTLY with the label format you created in ML from stage one. Refer to Fig. 3 for a template. Based on the fields in Fig. 3, the corresponding dBASE file structure would appear as Fig. 4. NOTE: All fields must be defined as "character" fields.
3) After you have created your dBASE file structure, you are ready to APPEND the SDF into your new dBASE DBF. From the dBASE dot prompt, enter "USE filename" where filename is the name of your dBASE DBF structure (created fin the previous step). Now enter "APPEND FROM d:filename SDF", where "d:filename" is your SDF filename. The "d:" within the filename does not mean drive "D", but simply designates that you may be required to enter the drive designator if the SDF is not stored on your default drive.

Figure 4

```
STRUCTURE FOR FILE:  C:AUXULIST.DBF
NUMBER OF RECORDS:   00000
DATE OF LAST UPDATE: 03/25/85
PRIMARY USE DATABASE
FLD       NAME        TYPE  WIDTH    DEC
001       NAME          C     030
002       STREET        C     030
003       CITY          C     018
004       STATE         C     012
005       COUNTRY       C     018
006       ZIP           C     010
007       PHONE         C     012
008       SUB:DATE      C     009
009       COMP:INFO     C     004
010       PROFESSION    C     010
011       SP:NOTES      C     010
012       UC            C     002
013       COMP:NO       C     012
014       COMP:NAME     C     030
** TOTAL **            00208
```

dBASE-II should now be in the process of reading the SDF. Once completed, you'll want to check the DBF to be sure the conversion process was successful. Via dBASE's BROWSE command, browse the DBF to make sure all fields are contained in their respective columns. If they are, Congratulations; if they are not, then most likely your dBASE DBF structure does not match your ML label format (see Fig. 3), or you improperly entered the "line-end" column positions from the ML2DBASE conversion program.

We used this exact same procedure to convert seven of our ML data files to dBASE-II. As long as you follow the steps EXACTLY, you should have no trouble converting your present ML data files over to dBASE-II. Good Luck!

STEWARDS

RELEASE 2

CHURCH STEWARDSHIP RECORDS SYSTEM

CP/M — EPSON QX -10/16; KAPRO
MS/PC-DOS — IBM PC/XT; Compatables

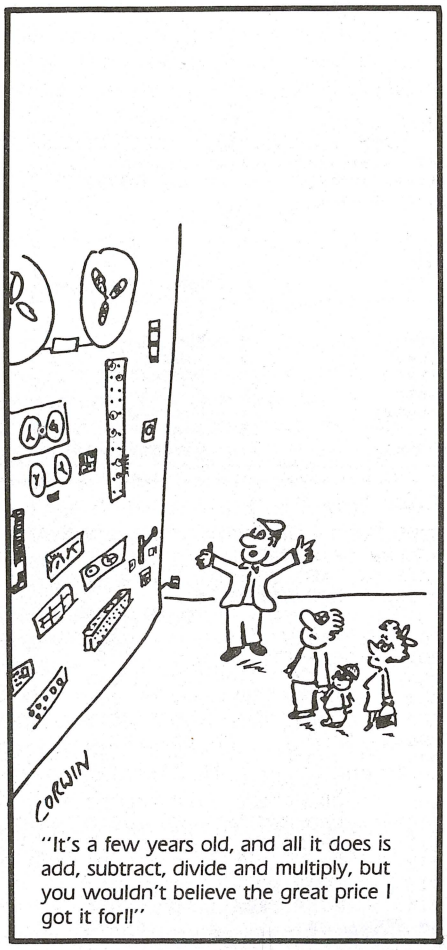
* Detailed record of each gift given (date, amount, purpose, plus totals)
* Up to 999 Accounts (1999 on Hard Disk systems)
* Completely Menu Driven - Easy to learn & use
* 3 label & 3 listing formats
  * 5 account selection criteria
  * Alphabetical, Numerical, or Zip Code sort
* 5 different reports available; window envelope format on report for mailing
* Accepts part-year pledges, prior year gifts, etc.
* Non-Pledge option for churches without pledges
* 2 Pledged and 75 Special Gift catagories
* User-definable names (catagories, church, etc.)
* Fast posting of weekly gifts from envelopes
* Complete documentation; User support Bulletin Board
* Quarterly newsletter sent to each registered owner
* Password protection safeguards sensitive data
* Detailed brochure available on request

Still only $150

Refund available if not suitable for your needs
Demo disk available for $15

BROWN CUSTOM, INC.
8810 Rocky Ridge Road
Indianapolis, IN 46217

VOICE: 317-881-2771 MODEM: 317-881-3849
MasterCard, VISA, COD — Dealer inquiries invited



"It's a few years old, and all it does is add, subtract, divide and multiply, but you wouldn't believe the great price I got it for!!"

STAT

by Allen Howell

CP/M's STAT.COM has been around for some time now, and may be one of the first CP/M programs you and a number of our readers have used. STAT is short for statistics, however there is much more to STAT than it's filename implies. Most users use STAT simply to see how much disk space they have left on their disk drives, or to see exactly how big programs and data files are. These basic functions just begin to penetrate the potential power and capabilities of STAT.

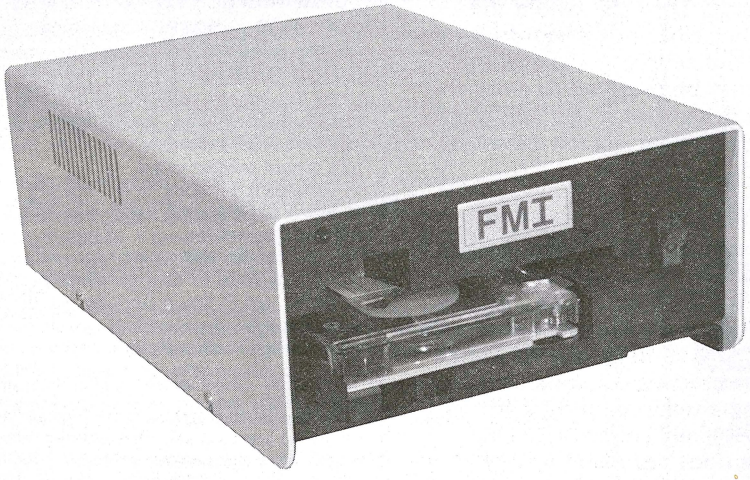
STAT allows you to "write-protect" specific files, or an entire drive. Write-protecting a file permits it to be read, but will not allow the file to be erased, updated, or overwritten.

STAT allows you to make invisible, certain files from a DIRectory command. By this means users protect their files by limiting access. Another advantage of making files invisible is that it eliminates clutter in your directory. Common files and programs like PIP, ZPIP, SETUP, STAT, etc. can be made invisible so that you don't see them each time a directory is performed.

STAT is also used if you wish to assign, or re-assign peripheral devices. If you were using a serial printer with your computer, you would need to tell CP/M to re-assign all printer output to the serial port, instead of default to the parallel port.

WANT **BACKUP** FOR EPSON QX-10 & QX-16 ?

DO IT **NOW** With **QXTAPE**



- Low cost solution
- Takes less than 5 minutes to backup your entire hardrive
- Supports CP/M, VALDOCS, MS-DOS operating systems
- Compatible with Comrex, FMI & QCS hardrives

Call now for information & pricing

We carry a complete line of **Hardrives** for Epson computers.

Forrest Micro Inc.

255 Forrest Street Metuchen, New Jersey 08840

201-548-6541 Telex 286788 FMI UR

HOUSEKEEPER

by David P. Christovich

SPEC SPOT

Product: The HOUSEKEEPER Program.
Type: Multi-program utility package.
Computer: HX-20.
Required peripherals: Microcassette drive.
Price: Approx. $33.00 (25 British pounds).
Ease of Use: Generally good.
Performance: Variable between programs from excellent to questionable.
Documentation: Generally good.
Summary: Useful HX-20 software with some implementation problems.
Manufacturer:
A.P. Systems Limited,
Surrey, England.

HOUSEKEEPER from A.P. Systems Limited is a set of HX-20 utility programs sold on a single microcassette. As is usually the case with "potpourri" packages of this kind, the quality of the programs is inconsistent, with some winners and some losers.

The HOUSEKEEPER programs include a directory keeper for microcassettes, three calculator programs, a measurement converter, an alphanumerical sorting subroutine, and an abbreviated word processor for notes, memos and the like. The programs are all in BASIC, and range in length from a few hundred bytes to about 1.5K. No special peripherals are needed to run the HOUSEKEEPER programs.

DIR is the directory program, and quite a handy one at that. You can place DIR at the front of a blank microcassette and keep a running directory of the location and rough length of every program or file which you subsequently save to that cassette. The heart of the program is a series of DATA statements into which you log the program names and their start and end locations on the tape counter. In actual use, the directory prints out with the current date, and you are prompted to select the start location of the program you want to load. The microcassette whirrs up (or back) to that location, and you can then delete DIR from memory and LOAD your program, or alternatively LOGIN to a free area and LOAD. The DATA statements which hold the directory data are a cinch to maintain, and the documentation shows non-programmers how to do it all easily and quickly.

CALC1, CALC2 and CALC3 are progressively more capable versions of the same calc program. CALC3 includes pi, LOG, Exponential, Sine, Cosine and Tangent functions in addition to the usual calc functions which are available in CALC1 and CALC2, making me wonder why the latter two programs are included in the package at all. The HX-20's PF keys are automatically redefined to provide the operands (+, -, *, etc.), and this proves to be a mixed blessing. For instance, CALC2 requires using a shifted PF1 key to raise a number to a power, and I never could get the operation to work. Instead of raising the number to a power, I kept getting the time and date on my display (which is what Shift-PF1 is programmed for on my machine). In other words, the program redefines some of the needed PF keys, but not all of them. The documentation for the three CALC programs runs together and shows the confusing effects of hasty revision. Better and simpler calculator utilities are available for the HX-20.

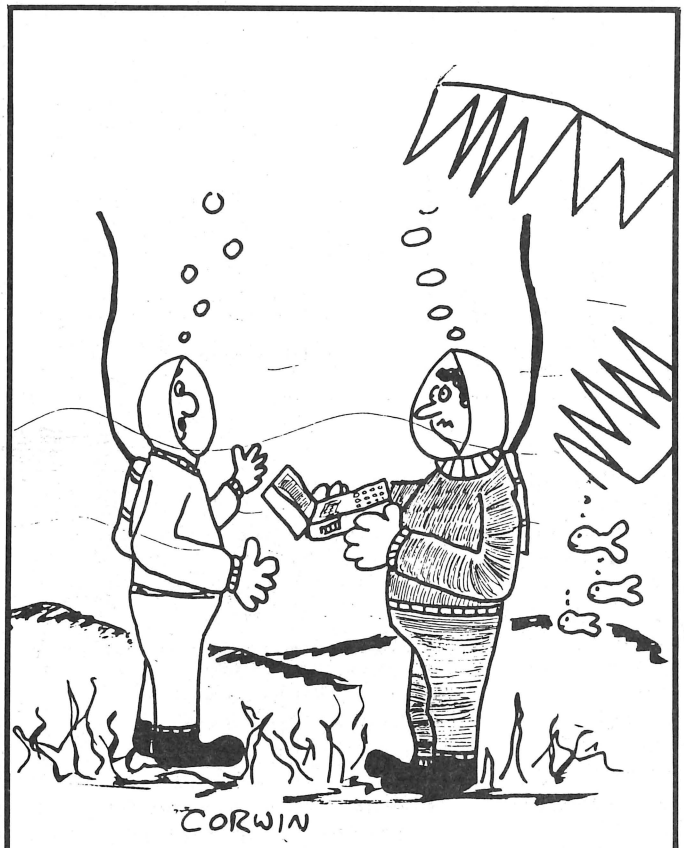
CONVERT is a useful program that converts a host of U.S. linear/imperial, area, volume, weight and other measurement standards to metric, or vice-versa. CONVERT is menu-driven and exceptionally easy to use, requiring a minimum of keystrokes to effect any given conversion. You can convert currencies as well, and the documentation tells users how to update the program to reflect changes in currency exchange rates. This is a good utility for travelers and people who work with the metric system on an infrequent basis.

SORT is comprised of two sorting subroutines, one alphanumeric and the other numeric. SORT is set up with DATA statements to demonstrate its capabilities, and either subroutine can be easily adapted to fit into user-written programs which need a sorting algorithm. The program makes generally good use of the microprinter to provide hard copy, but curiously, numerically sorted lists are printed only on the LCD display. Some simple PRINT-to-LPRINT code changes do the trick, but this is a curious kind of oversight in a sorting program written for a four-line screen.

JOTTER is a note-taker, memo-maker that lets you create and save up to 30 lines of text with up to 80 characters per line. JOTTER lets you manipulate the microcassette drive from within the program, identify individual lines of the text for printing, and create headers for each file. The program works fine, but is far too complicated to learn and use in terms of what it does (there's no line editing function, for example). If you already know how to use SkiWriter, A.P. Systems' own APWRITER, or any other full-feature word processor, why bother learning to use a new program with such limited capability?

The bottom line on A.P. Systems' HOUSEKEEPER is that the DIR, CONVERT and SORT programs are useful and easy to learn, but the CALC and JOTTER programs are in the "break the glass and use in case of emergency" class. Three out of five aren't bad, though, and HX-20 users need all the good software they can get. It is to A.P. Systems' credit that they make it easy for beginners to get the HOUSEKEEPER programs up and running by providing tightly-written "Cold Start" and "Loading a Program" sections in the documentation.

HOUSEKEEPER needs a fair amount of re-thinking and polishing to be an unqualified winner, but at about $33 American (25 British pounds), it deserves your consideration. ■



"Jaques, the good news is that this new waterproof paper for the Geneva works great. The bad news is that the PX Fishfinder indicates a Great White is nearby."

FX/RX Owners

THIS (Draft Print) **or THIS** (NLQ Print) **?**

(5 x size)

Install our new LetterWriter NLQ upgrade kit in your printer and you can choose NLQ (or any of 15 other print features) by simply tapping your printer panel buttons. NLQ print has four times the resolution of draft print. That means finer character detail, no visible dots, and impressive-looking documents. The FX version even adds IBM Graphics printer compatibility. With LetterWriter in your FX or RX, you may never need to buy a letter quality printer. Why not get LetterWriter for your printer today?

NLQ 12345abcdefghiJKLMNOPQRS
Draft 12345abcdefghiJKLMNOPQRS

FINGER PRINT™ LetterWriter™ NLQ Upgrade Kit by:

$79.95 FX $59.95 RX

For all FX-80/100 and RX-80/100 printers including F/T and + series. Simple plug-in installation. Complete instructions included.

Dresselhaus Computer Products, Glendora, CA
Call (818) 914-5831 for dealer nearest you.

Rx for PX

PX to MAC

Transferring files from the PX-8 to the Apple MacIntosh can be accomplished, but it involves some hardware modification. The first problem that has to be overcome is the gender mismatch in the cables. You may use either the Epson 724 or 725 cable, and the Mac printer cable. Both cables have male ends, so it is necessary to purchase what is known as a gender changer (that is set up as a null modem cable) to connect them. This does not completely solve the problem, however. There is also a pinout mismatch that must be corrected. When using the following Epson cables, the pinouts need to be modified as follows:

#724	#725
Pin 1 - 1	Pin 1-1
Pin 2 - 2	Pin 2-3
Pin 3 - 3	Pin 3-2
Pin 4 - 5	Pin 7-7
Pin 7 - 7	Pin 20-6&8

There are a couple of options for effecting the pinout changes. You may modify the cable yourself, re-soldering the appropriate connections, or take the cable to a computer or electronics store and have this done. If you have IQ Technologies Smart Cable, it will probably solve the pinout problem, but you'll still need the gender changer. It is also possible to buy gender changers that allow you to switch the internal pin configurations. These can cost from $20 to $40.

My solution to the problem is far less elegant in appearance, but is more versatile, cheaper, and doesn't involve any permanent modification to your cables. You should be able to find what are known as 'female jumper wires'. These will fit on the pins of either cable, allowing you to connect the cables as described above without a gender changer. A pack of these should not cost more than $3 to $4.

NI.COM

Tape of the Month number 3 contained a directory program called NI.COM, for which we were unable to provide any documentation. We have recently discovered that the program has some very interesting capabilities and hope the following comments will make the file more useful to those of you who have it.

If you invoke NI in the following manner you will receive a help message detailing the commands that it recognizes: NI /H From this help message you will see that NI is capable of: resetting drives; printing a drive directory (with adjustments for number of columns on the printout); using a catalog disk name for titles for use with MCAT; display a brief mode which omits the file sizes; and setting the user number for the directory.

PORTABLE WORDSTAR PATCH AREAS

The table below gives some patch areas for Portable WordStar with the comparable areas of WordStar 3.3 also listed. The 'current setting' column refers to Portable WordStar.

by Bob Hermann

LABEL	PX-8 WS ADDRESS	WS 3.30 ADDRESS	CURRENT SETTING	FUNCTION
INITPF	2F4	51	08	Initial page format; line ht 1/48s
	2F5	352	42	Paper length in lines, (.pl)=66
	2F9	356	03	Margin at top (.mt)
	2FD	35A	02	Heading margin (.hm)
	301	35E	08	Bottom margin (.bm)
	305	362	02	Footing margin (.fm)
	30A	367	0C	Std char width (in 1/120s)
	30B	368	0A	Alt char width (in 1/120s)
	30C	369	08	Page offset in chars
INITWF	311	36D	FF	Word wrap (^OW) 00=off, FF=on
	312	36E	FF	Justification 00=off, FF=on
	316	373	FF	Show ruler line 00=off, FF=on
	317	374	FF	Figure page breaks 00=off, FF=on
	318	375	FF	Show page breaks 00=off, FF=on
	319	376	01	Line spacing
BLDSTR	581	69A	03	Number of strikes for boldface (^PB)
PSCRLF	584	69C	04 0D 0A 0D 0A	String to do cr,lf (11 bytes total)
PSCR	58F	6A7	02 0D	String to do cr only (7 bytes total)
PSHALF	596	6AE	02 0D 0A	String to do cr and half lf (7 bytes)
PALT	5A3	6BB	02 1B 4D	String to set alt char width (5 bytes)
PSTD	5A8	6C0	02 1B 50	String to set std char width (5 bytes)
ROLUP	5AD	6C5	00	String to roll carr up part line
ROLDOW	5B2	6CA	00	String to roll carr down part line
USR1	5B7	6CF	01 0F	String for user func 1 (^PQ)
USR2	5BC	6DF	01 12	String for user func 2 (^PW)
USR3	5C1	6D9	03 1B 57 31 00	String for user func 3 (^PE)
USR4	5C6	6DE	03 1B 57 30 00	String for user func 4 (^PY)
PSINIT	5D6	6ED	10 OD1B 41 06 1B 50 12 1B 57 30 1B 46 1B 48 1B 35	String to initialize printer
PSFINI	5E7	6FE	10 0D 1B 41 0C 1B 50 12 1B 57 30 1B 46 1B 48 1B 35	String to uninit printer

FINALLY
THE WINCHESTER BREAKTHROUGHS YOU'VE BEEN WAITING FOR .....

HIGH CAPACITY WINCHESTERS with

- *FULL PARTIONING (without ram munching overlays)*
- *TOTAL SUPPORT of CP/M, TP/M-VALOCS, and MS-DOS*
- *QX-10 and QX-16*

AND AFFORDABLE PRICES

10 Meg	**$1095**
20 Meg	**$1295!!!**
30 Meg or More	**$ Call**

Call or write:

M P S
213 Kenroy Lane # 9
Roseville, CA 95678
(916) 786-6568

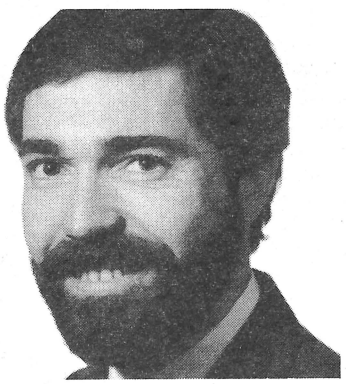
VISA/MASTER CARD

This is how Susan, Mark and Bruce solved their major, day-to-day accounting problems.

"I had no accounting background other than a Bookkeeping 1 course that I had taken years ago in high school . . . but I wanted to get control of our bookkeeping."

"With CHAMPION we have complete control of our books and financial information is instantly available. We are a fast growing company and if it hadn't been for CHAMPION we would have been buried under an avalanche of accounting paperwork. We work with over 250 vendors now, and with CHAMPION I can review our accounts payable or receivables in seconds . . . it's amazing. Our day-to-day bookkeeping problems have disappeared . . . and the system is extremely easy to use."

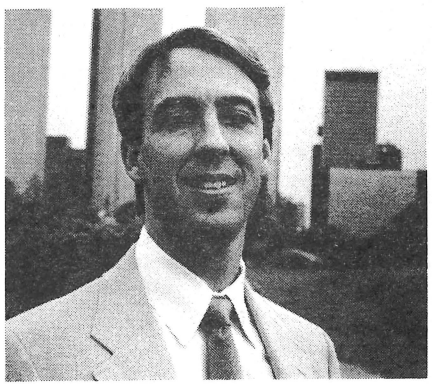
Susan Zweibel, Office Manager
ATMOSPHERIC INSTRUMENTATION RESEARCH, INC.
Boulder, Colorado



"With CHAMPION software an individual without any prior experience is suddenly a take-charge accountant."

"We've seen other firms go out of business because they didn't know where they were financially. Before July, 1984, an outside accounting firm did the bookkeeping monthly for all three companies. It might be two months before we received the (financial) information back . . . this kind of routine delay didn't allow for proper financial management . . . and our chain of stores grosses between $4 million and $5 million a year. I considered writing a customized accounting program because I believed our needs went beyond what most off-the-shelf programs offered . . . further research however, led me to CHAMPION and we purchased every module. The software permitted me to customize a chart of accounts in detail . . . and of course, it made profit-and-loss statements and trial balances available daily instead of after a two-month wait. With CHAMPION I'm in control. Converting from the manual to the computerized system was simple. I am more than pleased with the system."

Mark S. McCutcheon, Vice President & Controller
SPEEDY-B, INC.
Duncanville, Texas



"We were able to install the system (CHAMPION) without the help of a consultant, do it correctly the first time, and we were not previously trained computer programmers."

"I wanted to spend as little money as possible on an accounting package and not waste a lot of time . . . we chose CHAMPION. The system worked perfectly from the very beginning. Recently the manager of our International Trade Association has requested that our corporation demonstrate the CHAMPION accounting system in a seminar to the many interested members . . . some of whom have paid private consultants 30 times more and they are still having problems!"

E. Bruce LaRoche, Vice President
HOUSTON STAMP & STENCIL CO.
Houston, Texas

"Superior to its competition" . . . "Head and shoulders above other (accounting) packages" . . . "Anyone with bookkeeping knowledge should be able to keep a set of books using this system." "CHAMPION adds new meaning to 'integrated accounting software' which makes its competitors seem obsolete."

CHAMPION Business Accounting software has received 17 outstanding reviews from national accounting and software magazines in the past two years (excerpts shown above). While all these reviews are flattering and have done a lot to enhance our image in the marketplace, it is the thousands of comments contained in letters from satisfied end-users that best explains why CHAMPION has sold over 15,000 accounting packages to small businesses.

If you want to learn more about how easy it is to solve your day-to-day accounting problems and keep a great set of books, please call toll free for the CHAMPION dealer nearest you:

1-800-243-2626

CHAMPION™
BUSINESS ACCOUNTING SOFTWARE

17301 West Colfax Avenue, Suite 250, Golden, Colorado 80401

UD-80 Video Display Controller

by Doug Kitson and Bob Hermann

SPEC SPOT

Product: UD-80 Video Display Controller
Type: Interface controller enabling the use of a 24 line monitor with PX-8.
Operating System: CP/M PX-8 version B.
Accessories: Required software is included in the controller. Optional black and white or color television modulator kits (about $20 and $50 respectively). Optional 8K RAM expansion kit ($40). Optional upgrade kit for HX-20 to allow UD-80 support. Also available is a driver program for the HX-40.
Price: Approximately $200.00
Ease of Use: Excellent
Documentation: Fair to good
Summary: Generally good, there is a slight bug with WordStar, and you must be sure to check the monitor you will be using to be sure it meets with the UD-80's required specifications before buying.
Manufacturer:
Oval Automation Limited
Courtwick Lane, Littlehampton,
West Sussex, BN17 7PA
England
Phone: 0903-725225

We recently had the opportunity to evaluate the OVAL UD-80 Video Display Controller with both a HEATH 122A and a COMREX CR5600 monitor. The device was easy to set up and included more features than originally indicated. It was necessary to attach an electrical outlet plug to the end of the power supply cable, since none was supplied.

The driver program, UD80-DRV.COM, along with the Portable WordStar loader, WSX.COM, downloads from the UD-80 by using FILINK.COM on the CP/M utilities ROM in a couple of very easy steps. Once downloaded the driver program is run and places itself in User BIOS until cleared when you push the RESET button on the side of the PX-8. You must have set the User BIOS to 3 pages using CONFIG, and your PX-8 must have the new operating system ROM, version B, installed.

Using CTRL with the PFKeys directs output to the monitor through either the serial or the RS232 port. As the UD-80 uses CTRL with the PFKeys the PFKeys retain their usual functions. Although the monitor is usually attached to the RS232 port, which is the UD-80 default port, it can be connected to the serial port so that the RS232 port can be used simultaneously for a modem for telecommunications.

Neither monitor gave a continuously stable display. They both wavered and jumped about a bit from time to time when used with the UD-80.

If you thought that the slowness of display of the PX-8 was due to the PX-8 itself just wait till you see it fly when you do a TYPE of a long document on the monitor with the UD-80! Have your finger close by the <PAUSE> as you'll see for sure that the responsibility for that lack of speed lies with the LCD.

Some programs cannot be used with the UD-80; these include any that occupy User BIOS space. For this reason the Portable Scheduler will not function at all. Others such as Porta-Calc will only show eight lines; this also applies to Portable WordStar if it is not run using the bundled WSloader, WSX.COM. As well as changing the display to 24 lines for the UD-80 with monitor the WordStar loader can also be very easily user modified to change the printer installation usually run by Portable WordStar.

We were not able to use the internal modem of the PX with the display controller. After returning the unit, it did occur to us that this may be possible, if STAT were used to change the device assignments. We did not have the opportunity to evaluate this assumption, however.

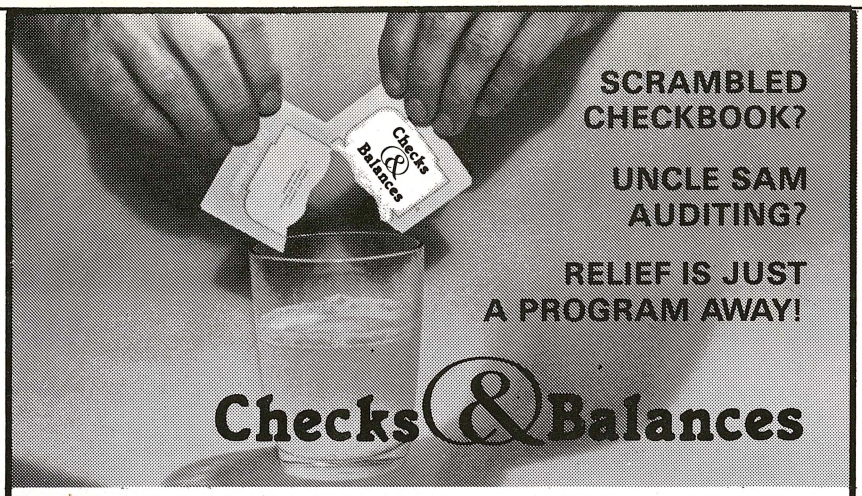
Using Portable WordStar on a 24 line monitor certainly is easier than on the PX-8's 8 LCD lines. There are no real surprises here except for some very strange screens, with the WordStar ruler and status lines stuck two-thirds down the screen (intermittently, after we hit ^G or ^B). The screen can be brought back to normal by simply scrolling the garbage off the screen then scrolling back to where you were. This is a bug the manual mentions but says had been corrected in the version which was used; not completely corrected it would appear.

The UD-80 must be signaled, by pressing ^PFK1, when using PX-80 BASIC. Some BASIC programs will need to be modified to function with the UD-80. Those programs using forms of the SCREEN command filled the screen with "P"s and any further output was unreadable. Obviously any LOCATE commands will only work with a maximum of 8 lines as anything more than 8 is rejected by PX-8 Basic as invalid.

The UD-80 apparently has a screen dump feature which is independent from that of the PX-8. As a special Y cable is required, this feature was not attempted. We also did not have the necessary equipment to use the controller with a television.

The hardware, as supplied, does not allow scrolling on the UD-80 unless additional option video memory is added (scrolling works as expected within WordStar). Up to 16K can be added and this will then allow

Continued on page 44



Checks & Balances will unscramble your checkbook by:

Keeping a full year at a time
Reconciling your bank statement
Flagging missing or duplicated checks
Writing checks with your computer
Allowing for automatic teller machine transactions
Single entry format—fast, easy use for home or small business
Easy-to-remember *English* commands and full-screen editing

Get organized for Uncle Sam

Enter check or CASH transactions
Transactions may be divided to multiple accounts
Track travel and mileage for your deductions
Reports combining multiple checkbooks
Net worth, profit/loss, income/expense reports
Keeps a full year—calendar or fiscal—with no closing at the end of a month. You can enter that shoebox of receipts for the year on April 14 to beat the deadline!
Generate reports for all or part of the year anytime

Plus it contains a rolodex for names and addresses so you may use window envelopes with checks or print mailing labels, rolodex cards or envelopes.

ONLY $74.95 • 30-day money back guarantee
Not copy protected!

BOWLING LEAGUE SECRETARY

Written by Patrick Lajko of CDE—a bowler with a high of 287, he knows what a league secretary needs. The Secretary computes averages, handicaps (5 different ways) and maintains high, scratch and HDCP games, team standings, and it even tells you what lane to bowl on! Complete printed reports. Enter the scores, it does the rest. Free updates for one year. Not copy protected. For CP/M-80 or MS-DOS and PC-DOS. **Price $89.95**

UNBELIEVABLE PRICES ON IBM-XT COMPATIBLE COMPUTERS WITH SOFTWARE

256K, 2 half-height floppies, keyboard, color graphics card with monochrome monitor, serial, parallel, game ports. **$989.00**

640K, 20 meg hard disk, 2 floppies, keyboard, RGB color monitor, serial, parallel, game ports, 5151 keyboard. **$1995.00**

Ordering Information

Checks & Balances and Bowling Secretary system requirements—CP/M: 60K RAM MS-DOS/PC-DOS: 192K RAM. All require 2 floppies or hard disk, or one floppy with over 500K.
Check, Visa, MC accepted. $3 S&H per order. COD $4 extra. Outside USA $10 per order. No COD. Overseas surface rate.

DE SOFTWARE • 948 Tularosa Drive
90026 • (213) 661-2031

Advertisers Index

Advent Products, Inc. **6, 7**
Bi-Tech Enterprises, Inc. **32**
Brown Custom, Inc. **37**
C & C Computers **9**
CDE Software **44**
Cardinal Software **36**
Central Computer Products **22, 23**
Coast Investment Software **33**
CompuData Systems **20**
Computer Centers **10, 11**
Dresselhaus Computer Products **40**
Epson America, Inc. **IFC, 1**
Forrest Micro, Inc. **38**
Green Tree Computer Systems **35**
Generic Computer Products, Inc. **24**
Grand Island Productions **17**
James River Group, Inc. **4**
Kamasoft, Inc. **45**
MPS, Inc. **41**
Micro-Art Programmers **36**
Micro Designs **24**
NewTEK Industries **27**
P.R.O.-Systems of Kansas City **33**
Rising Star Industries **28, 29**
SemiDisk Systems, Inc. **BC**
Stanton Software **20**

Continued from page 43

multiple pages, full attributes and user defined characters according to the user's manual. Other plug-in modules are also listed as options and claim to support color coders and modulators; further options are promised at a future date. Oval currently also offers another unit, the DS-8, which allows up to three accessories to be simultaneously attached to the serial port while the RS232 is being used for the UD-80 display controller. Switching between these (for example a printer and a PF-10 disk drive) is software controlled.

Would I buy one? If my PX-8 were my only computer I might. I really like seeing more than a half dozen or so lines at a time (though as a dedicated PX-8er I now insist that 8 lines of display, without descenders, is the norm for a computer!) but the occasional instability of the display is somewhat distracting. I would want to be really sure the occasional instability was a result of the two different monitors I was using and not inherent in the display controller. If you can't first check out how the UD-80 will function with your own monitor I'd be careful about buying one. If you do check it out and the display is stable then it seems to me that the UD-80 would be a useful addition for the Geneva.

Idea Processing— Pure and Simple.

Announcing the all NEW

OUT-THINK™

outline processor.

See your ideas like you've never seen them before!

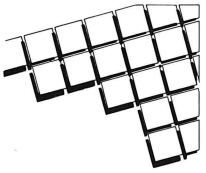
Capture your fleeting ideas. And keep 'em organized with OUT-THINK, the incredible, new outline processor from KAMASOFT. OUT-THINK unleashes the power in your workhorse CP/M computer and turns it into an Idea Processor.

Get extraordinary:

+ ease of use
  Most functions are less than 3 keystrokes away!
+ ease of learning
  Completely interactive; no programming!
+ performance
  Write more and faster than you ever dreamed possible!
+ idea leverage
  OUT-THINK your competition!

OUT-THINK supports your thinking process and keeps you in touch with your ideas. That's because OUT-THINK works the way your mind works—naturally.

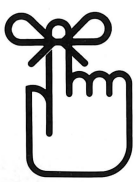
Begin by brainstorming. OUT-THINK lets you jot down ideas quickly, as you think of them. If you want to elaborate, you can add text with full screen editing.



Then develop your ideas using a familiar outline format. Change the structure as easily as you change your mind. Move an idea and all attached text moves with it.

You can keep track of your main line of thought by collapsing the details from view. Then, expand portions of the outline to develop the specifics when you need to. By collapsing and expanding, you can maintain an overview and literally see how your ideas fit together.

And OUT-THINK is fast. Your ideas remain at your fingertips. OUT-THINK can locate and retrieve by keyword—even a misspelled one—in less than a second per outline file.



Once you've entered your ideas, you can get them out with a full complement of formatting, printing and file conversion options (including Wordstar compatibility). From a two-page report to the Great American Novel, OUT-THINK will rotate your headers and footers with page numbers and give you a Table of Contents to boot.

OUT-THINK is brought to you by KAMASOFT. We pioneered outline processing and brought this amazing new technology to CP/M computers. For over 2 years, our KAMAS programmable outline processor has been widely acclaimed:

"Outline processing might be the next wave in software, and KAMAS is a good place to start."
- Ezra Shapiro, BYTE

"The outline processor is simple, easy to use, and will appeal to all users."
- Mark Renne, INFOWORLD

"If you're a writer using a CP/M based system, get KAMAS. You'll love it. It's that simple."
- Marybeth Highton, FOGHORN

"Considering the quality of the program itself, the documentation, and newsletter, it has to be rated an outstanding value."
- Thomas Tucker, PROFILES

Our new OUT-THINK is simpler and easier to use than KAMAS. Yet, it offers more printing and formatting options, better handling and control, and faster operations. And at $49.95 your ideas have never had it so good. OUT-THINK is simply spectacular. Try it for 60 days. If you're not completely satisfied, return it for a full refund.

If you create and organize text in the course of your work, you owe it to yourself to get OUT-THINK.*

*But for some people, enough is never enough. Some like the challenge; others need the power. For you, we have the KAMAS Combo Pack. You get OUT-THINK's ease of use coupled with the extra horsepower of the KAMAS programming environment. And both use the same outline files.

Rush me my choices now:

	special introductory
OUT-THINK the simple and easy to use outline processor:	$49.95*
KAMAS the programmable powerhouse:	$99.95*
KAMAS COMBO PACK the power and the glory:	$129.95*

*Includes S/H U.S. & Canada. Overseas add: $10 for OUT-THINK; $30 for KAMAS or COMBO PACK.

KAMAS owners: Send us your master disk and $25 for OUT-THINK.

☐ VISA ☐ MasterCard ☐ Payment Enclosed

Card No. Exp. Date

Signature

Name

Address

City State Zip

Telephone

Our software is available for most CP/M computers. Tell us about yours:

Computer Make/Model

Disk Size: ☐ 5¼" SSDD ☐ 5¼" DSDD ☐ 8" SSSD

Requirements: CP/M 2.2 or above (48K TPA). Minimum 200K of disk storage. 80 column x 24 line screen. (Note: KAMAS requires 56K TPA and Z80 processor.)

Terms: All orders prepaid. PO's accepted when accompanied by payment. Foreign checks must be drawn on US banks in US funds.

MAIL ORDERS TO:

KAMASOFT™

2525 SW 224th Ave., Dept. 341
P.O. Box 3549
Aloha, OR 97007

CALL IN YOUR ORDER:

[illegible] is a registered trademark of [illegible]

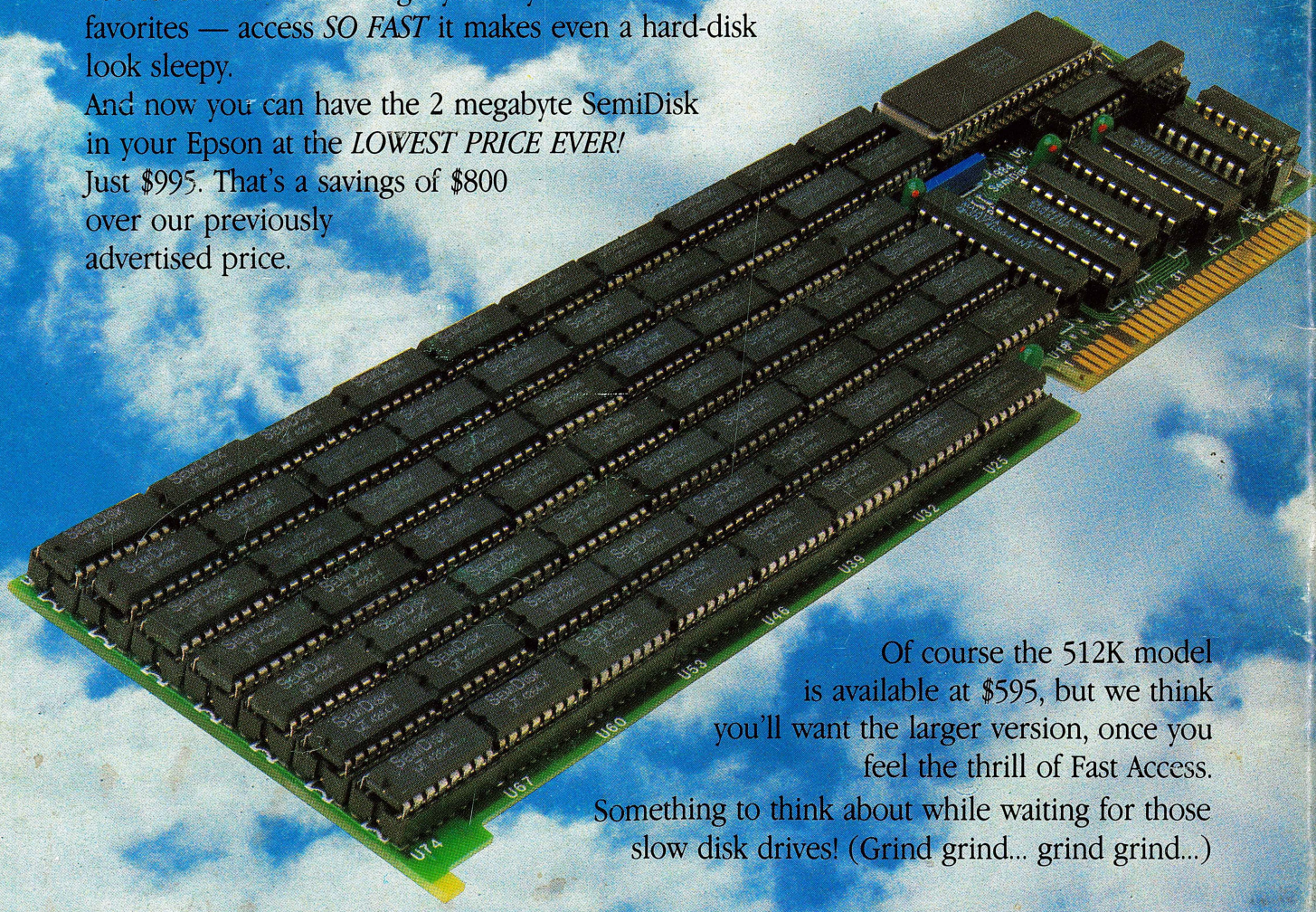
© 1985 KAMASOFT, Inc.

Cheap thrills!

We just made "instant gratification" affordable.

Now you can renew your love affair with your QX-10 in a *BIG* way. When you plug our disk emulator card into one of your computer's expansion slots, suddenly you have fast access to as much as 2 megabytes of your VALDOCS or CP/M favorites — access *SO FAST* it makes even a hard-disk look sleepy.

And now you can have the 2 megabyte SemiDisk in your Epson at the *LOWEST PRICE EVER!* Just $995. That's a savings of $800 over our previously advertised price.



Of course the 512K model is available at $595, but we think you'll want the larger version, once you feel the thrill of Fast Access.

Something to think about while waiting for those slow disk drives! (Grind grind... grind grind...)

2Mbytes $995

512Kbytes $595

Battery Backup $150

MasterCard VISA

Call 503-646-5510 for CBBS/NW, and 503-775-4838 for CBBS/PCS, both SemiDisk-equipped computer bulletin boards (300/1200 baud).
SemiDisk, SemiSpool trademarks of SemiDisk Systems. CP/M trademark of Digital Research.

SEMIDISK

SemiDisk Systems, Inc.
P.O. Box GG
Beaverton, Oregon 97075
503-642-3100